

Buyer's Guide to 24-Pin Printers • Desktop Publishing: MS-DOS or Mac?
Home-Office Survey • Balancing Work and Leisure • Hardware Reviews

February 1989 \$2.95

Canadian \$3.25

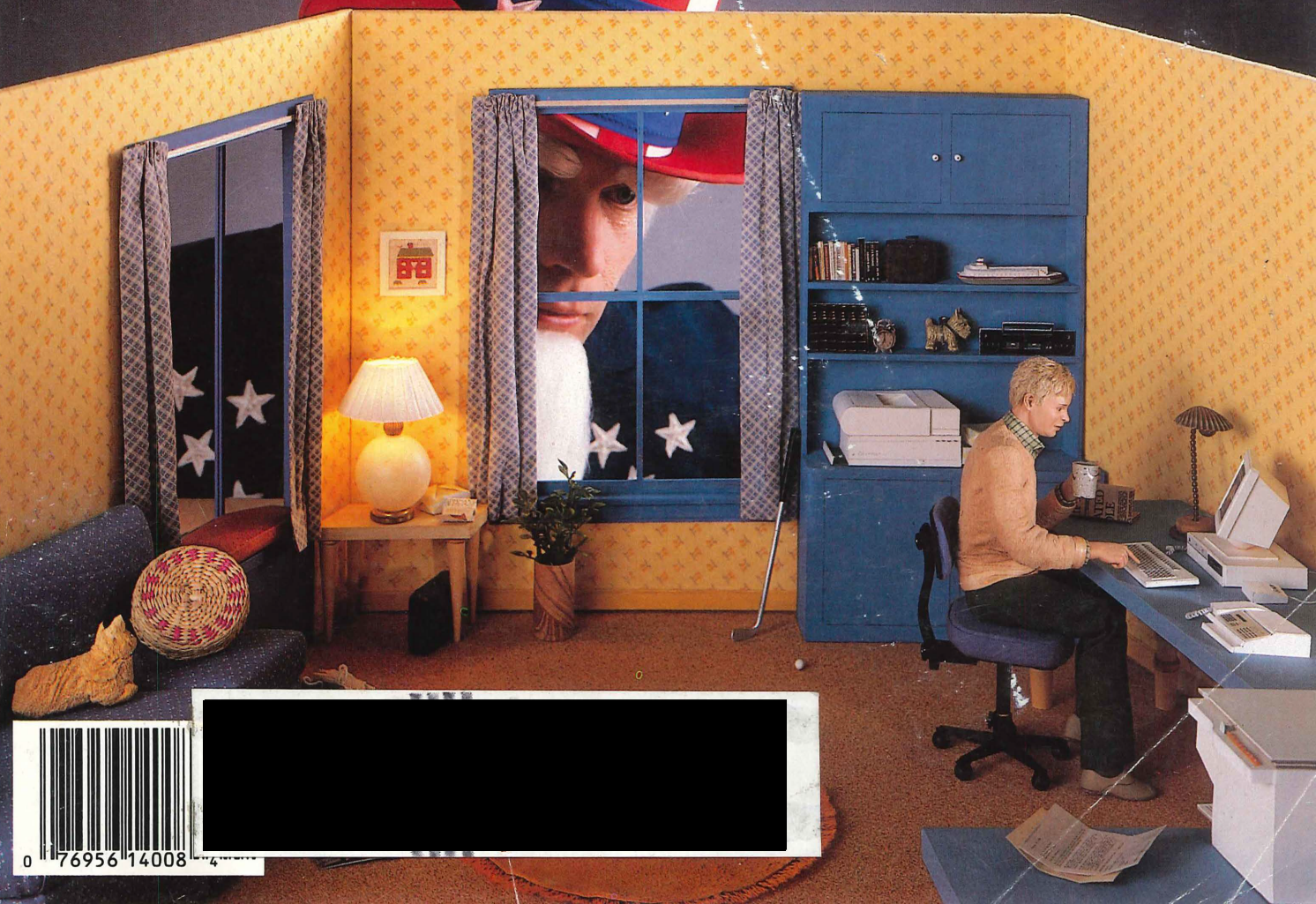
HomeOffice

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How to Cut Your Taxes!

An Insider's Guide



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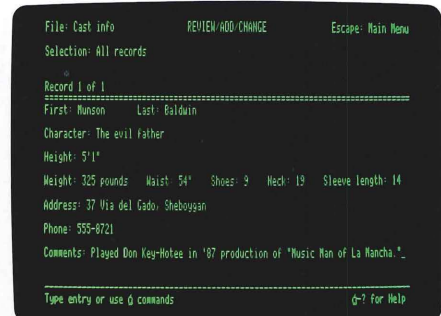
Everything isn't what it used to be.



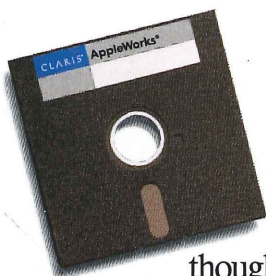
With a word processor, spreadsheet and database in one package, AppleWorks has just about everything an Apple II owner could want.

Item	Buy/Rent/Borrow/Build	Complete	Cost
1 Fiddle	Borrow from Bob Chandler	Done	\$0.00
2 Aerobics Studio	Build	8/22/89	\$250.00
3 Tin roof	Borrow from Hayden's shed	Done	\$0.00
4 Robert's costume	Kathy will sew	8/10/89	\$20.00
5 Ursula's costume	Steve Linura's costume	Done	\$0.00
6 Munson's costume	Steve Linura's overalls	Done	\$0.00
7 Black leopard	Rent	8/22/89	\$500.00
8 1500 bagsels	Buy	8/20/89	\$150.00
9 Misc. furniture	Borrow	8/30/89	\$0.00
10 Smoke machine	Rent	8/30/89	\$1,000.00
11 Dry ice	Buy	Nightly	\$200.00
12 Laser effect	Rent	8/22/89	\$12,000.00
13 Subtotal			\$14,420.00

You can jump from one program to another in the blink of an eye. Which makes AppleWorks an exceptional choice for fast-paced businesses.



AppleWorks is the best-selling Apple software of all time. And if you own an Apple IIe or IIfx, you still can't buy a more powerful program.



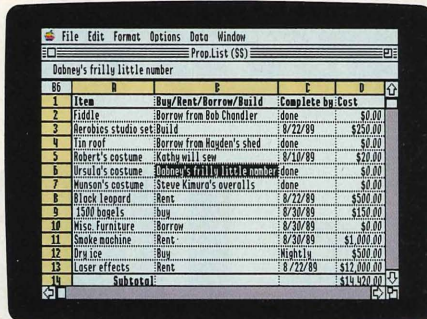
When AppleWorks® rocketed to the top of the best-seller lists a few years back, Apple II owners thought they had seen everything. They were right. AppleWorks contained every program you could possibly want in just

one program. And exercised the power of the Apple II like it had never been exercised before. But then came the Apple IIGs. With more power and new capabilities. Everything had changed. And Apple IIGs owners wanted more. A program with everything AppleWorks has. And everything else, too.

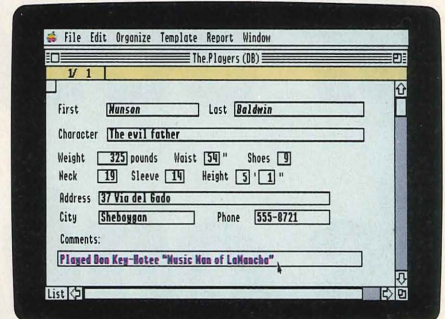
Now it's more.



Like AppleWorks, AppleWorks GS offers a powerful word processor. And you can enhance your work with type styles, sizes and fonts.



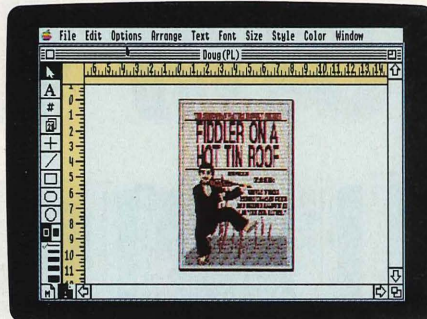
AppleWorks GS can read all your AppleWorks files. And when you transfer your spreadsheets to AppleWorks GS, you can add boldface.



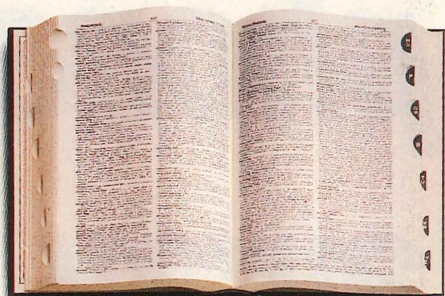
The database lets you store and sort thousands of business, school or home records. And now you can use a mouse and pull-down menus.



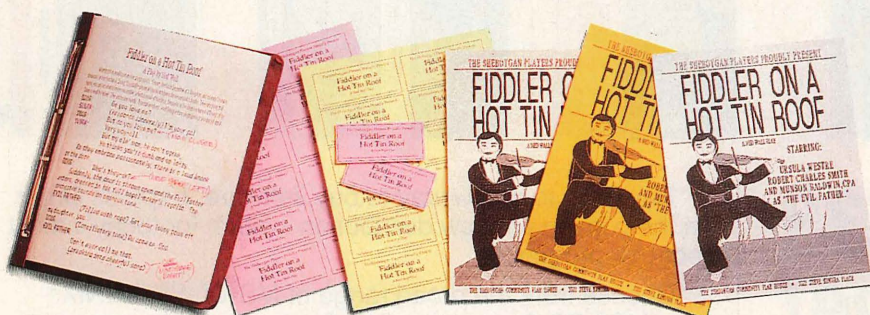
A graphics program that seamlessly combines bit-mapped painting and object-oriented drawing capabilities will leave Macintosh users jealous.



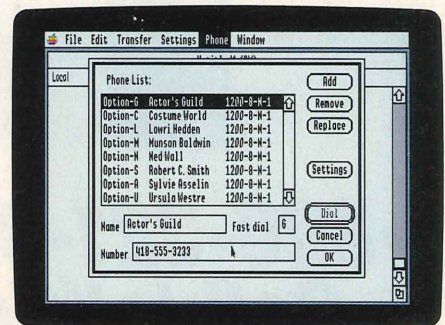
AppleWorks GS includes the most powerful Apple II page-layout program you can buy. Put all the pieces together. Then publish them.



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AppleWorks GS supports most popular modems to let you send and receive files via telephone.



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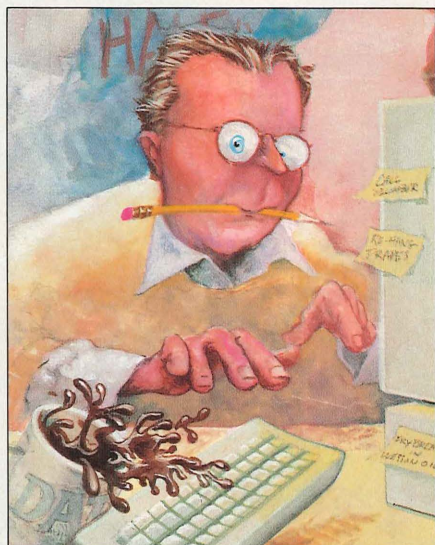
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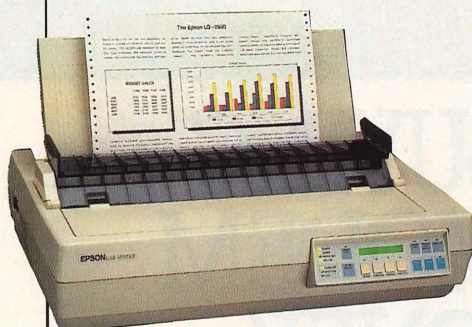
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COVER: DIMENSIONAL ILLUSTRATION BY JOAN STEINER.
PHOTOGRAPH BY WALTER WICK

FEATURES

COVER STORY

How to Save on Taxes: An Insider's Guide

Page 43

Are you among the 95 percent of home-based professionals paying too much to Uncle Sam because you're not aware of all the tax deductions you're allowed? Before you visit your accountant, give your home-based operation the tax litmus test. Includes 12 top-notch tax-preparation programs.

LIFESTYLE

Stress Busters!

Page 49

Falling into the all-work-and-no-play trap? Experts and homeworkers tell how you can "speed up by slowing down" and balance work, family, exercise, and personal time within a hectic schedule.

BUSINESS PROFILE

Entrepreneur Looks for Laws—and Finds Success

Page 52

There's more than enough on-line research work to keep Edie Martinez in business—digging up information for the high-powered Boston attorneys who are her clients.

TIPSHEET

The Check Is in the Mail

Page 54

How to develop a collections system that will help you get the money owed you—when it's due.

BUYER'S GUIDE

24-Pin Dot-Matrix Printers

Page 56

This guide to speedy, high-quality dot-matrix printers includes five in-depth reviews, a specification chart for 22 popular 24-pin models, and answers to commonly asked questions.

READER SURVEY

Win a Fax for Your Facts

Page 61

What kind of work do you do at home, what products do you use, and how do you feel about your workstyle? We want to know. Send in this survey, and you could win a Toshiba 3300 fax machine or a copy of *Andrew Tobias's Managing Your Money* by MECA.

PRODUCTS

Hardware Reviews

Page 64

Miniguide to VGA Cards: AST-VGA Plus, Genoa SuperVGA HiRes-10, Quadram QuadVGA, STB VGA Extra/EM, Tecmar VGA, and Video Seven FastWrite VGA. *Computer:* Compaq's SLT/286 Model 20; *Fax Machines:* Cobra Print Phone Portable PP-110 and Toshiba 3700; *Cordless Telephone:* Southwestern Bell Freedom Phone FF-1700.

Software Reviews

Page 74

Long reviews: *A Banker's Secret*, a loan-calculating tool; and three word processors—*MindWrite*, *WordStar Professional 5.0*, and *Webster's New World Writer II*.

Quick Takes: Four utilities for desktop management and hard-disk housekeeping: *HQ*, *Symantec Utilities for Macintosh*, *Take Charge*, and *XTree Pro*.

FAMILY COMPUTING

Look What I Did!

Page 82

Give learning-disabled children a sense of accomplishment by introducing them to software that produces tangible output. Includes recommended software for reading, writing, science, and desktop publishing, plus points to consider when choosing software.

Software for Learning and Leisure

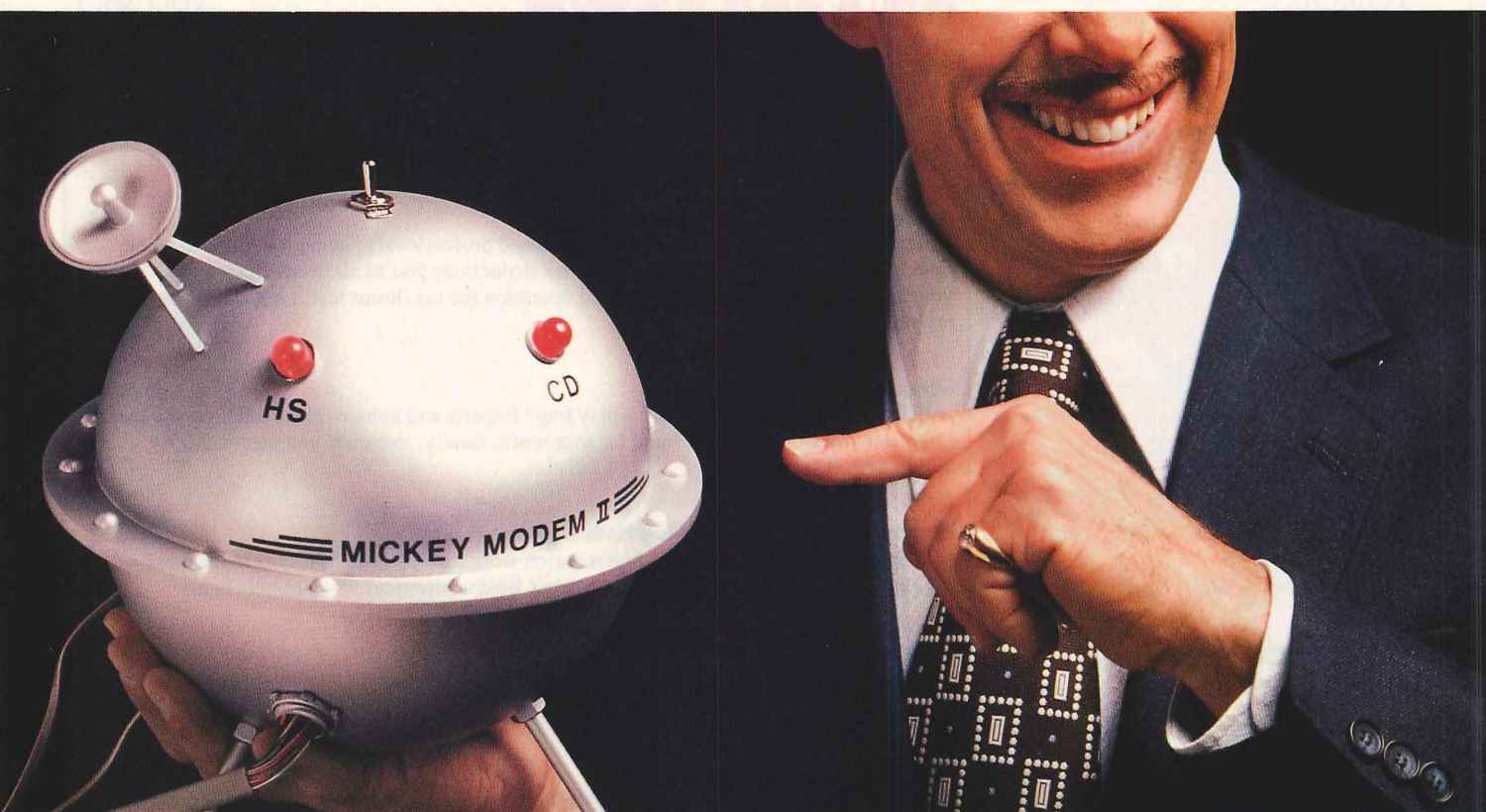
Page 88

Education and Family Productivity: long reviews of *AmandaStories, Vol. 1* and *Slide Shop*; capsule reviews of *BabyCare*, *Explore-a-Story*, and *The Movie Program*.

Entertainment: long reviews of *King's Quest IV* and *Falcon A.T.*; capsule reviews of *Final Assault*, *Romance of the Three Kingdoms*, *Tracon*, *Typhoon of Steel*, and *Xian v2.0*.

Entertainment News and Hints

Page 92



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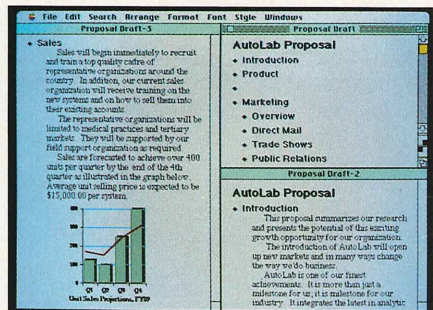




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COLUMNS

Shoptalk

Page 20

Advice for Farmers and Consultants. Small-business and home-office consultant Joanne Pratt answers readers' questions on farm-management software, tax planning, learning computer skills, and winning government contracts.

Clinic

Page 24

Answers to Readers' Questions. HOME-OFFICE COMPUTING's technical staff digs up answers to readers' computing questions. This month: The functions of fax boards, unraveling the mysteries of ASCII and machine language, and installing copy-protected programs on a hard disk.

Machine Specifics

Page 26

New Mac II; MCA vs. EISA; Announcements from Tandy. Computer and software news, opinions, quotes, and rumors, reported by HOME-OFFICE COMPUTING columnists with an eye on the Apple and Macintosh, Tandy, and MS-DOS and PS/2 universes.

Working Smarter

Page 40

Success Rate for Startups Improves. Columnists Paul and Sarah Edwards offer ideas, inspiration, and tips for succeeding at the work-from-home lifestyle. This month: Improving the odds against failure, smart-marketing secrets, child care, and staying fit.

Workstyles

Page 100

Isolated? Me? Impossible! Gather 'round the water cooler! Our telecommuting senior editor, Nick Sullivan, considers the value of contact with colleagues and the myth of work-at-home isolation.

DEPARTMENTS

Editor's Note

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Letters

Page 10

Up Front

Page 14

News, advice, tips, and a shot of humor—on computing, using home-office technology, and running a home business. This month: Laptops invade the home office; IBM pioneers a work-at-home program; business books you can *listen* to; a fax phone book; and business advice from experienced executives.

Word Processing

Page 30

How to Format Documents Quickly and Accurately. Zip through repetitive text tasks with preformatted style sheets, or templates—whether you create your own or buy a ready-made text formatter.

Desktop Publishing

Page 32

Macintosh vs. MS-DOS: Which System Works Better for Page Layout? Four questions to ask before you purchase a new system or decide to make a switch. Plus: Product News and Notes.

Spreadsheets

Page 36

Excel Processes Words (As Well As Numbers). Create effective invoices, financial statements, estimates, and catalogs with Microsoft Excel, the popular spreadsheet for MS-DOS and Macintosh.

Telecomputing

Page 38

Searching On-Line Databases for Profit. On-line searching can bring new clients or customers to your business—or be a lucrative business in itself (see *profile*, page 52).

Best-Selling Software

Page 80

Classifieds

Page 94

Advertiser Index

Page 99



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- ☐ 376 **GradeM** - Teachers/students can track/summarize grades.
- ☐ 384 **XY-See** - (2 disks) Graphic math for HS/college students.

GRAPHICS

- ☐ 58 **Chemview** - Rotating 3-D molecular structures. EGA.
- ☐ 145 **Fingerpaint** - (2 disks) Paint! Also obj oriented dsgr. ★
- ☐ 210 **Dancad3D** - (2 disks) Advanced design. 640K/hrd skt. ★
- ☐ 285 **Surfmodl** - (3 disks) Produce & shade 3-D images. ★
- ☐ 356 **Geoclock** - (2 disks) Time map w/sun, dark areas! EGA.
- ☐ 362 **VGA Cad** - (2 disks) Super res 256 color painting! VGA.

GAMES

- ☐ 15 **Biblemen** - Exercise knowledge of Bible figures/events.
- ☐ 23 **Star Trek** - Amazing high res! Also Othello, Artillery. EGA.
- ☐ 28 **Wordplay** - (Ik Wheel of Fortune). Also Backgammon. ★
- ☐ 84 **Solitaire** - Grt card games, Spider, Klondike, Canfield! ★
- ☐ 121 **Arcade** - Qubert, Pango, Centipede, Hopper & more. ★
- ☐ 151 **Hack** - You & yr trusty dog in a wild adventure (Ik Rogue).
- ☐ 176 **Striker** - Helicopter atck. Also Risk, world domination. ★
- ☐ 215 **Phrase Craze** - Solve word puzzles or create your own!
- ☐ 289 **3-D Packman** - Also Kong, Spacwar, ABM (missiles). ★
- ☐ 309 **Blackjack** - (you set rules). Also ArmchairQB & Empire!
- ☐ 321 **Adventure** - Explore the caves! Also Castle, Star Trek.
- ☐ 365 **Adventure Game Toolkit** - (5 disks) Play, create yr own!
- ☐ 372 **Pinball** - Also Othello, Dragons, Sopwith, Battleship. ★

UTILITIES

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EDITOR'S NOTE

Father Time and Uncle Sam—It's All Relative

Time and taxes. Not enough of the first and too much of the second. These common complaints can be heard everywhere, but nowhere are they more important than in a home-based business.

Accountable for one's own productive use of time and money, the entrepreneur alone determines how his or her most precious resources are spent. Too much here, or too little there can have dire consequences. So, several articles in this month's issue are devoted to more effective management of time and money.

Certainly a workable record-keeping system is essential, but in the crush of getting work done, finding time to keep records is often elusive. We know that failing to maintain complete and accurate records too often proves to be a painful and costly lesson, but more than meticulous records are required to hang on to as much of your hard-earned money as possible. This month's cover story, "How to Save on Taxes: An Insider's Guide" (page 43), by Steven F. Edwards provides both tips on getting the most tax deductions allowed and a rundown on tax-preparation software.

And of course central to any business is the successful management of cash flow. Getting business is one thing, but it's even more important to make sure you're paid for your efforts. And few people find asking for the money they're owed any easier than soliciting work in the first place. Contributing editor Lynie Arden's piece, "The Check Is in the Mail" (page 54) helps to make the arduous chore of collecting funds due part of the standard professional procedures of any business.

If you're in business for yourself, there's no escaping one fact: You're it. A one-man or one-woman band—or even a small combo—needs to be efficient, on top of it all. While it may be charming to be disorga-



nized, it can also be especially costly when you're the boss—and the staff!

But managing time well does not mean spending it all in one way or one place. Barbara Stein's "Stress Busters!" (page 49) outlines some of the major time-related problems of home-based workers and suggests practical solutions.

Ideas like these, which we hope help you manage your enterprise, work best when they come from you. So, we hope you can indulge us with a few minutes of your time by filling out our reader's survey on page 61. Your responses will tell us more about the kinds of help you need and want in order to be as productive as you can be in your office at home.

Claudia Cohe

CLAUDIA COHE
EDITOR-IN-CHIEF

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WHERE DO WE FIND SOFTWARE?

The article entitled "How to Do Your Own Public Relations" by Barbara Stein in the October issue was particularly interesting. Perhaps you could do an article on writing promotional pieces for small businesses.

With the growing popularity of desktop publishing, tips on how to produce brochures and flyers would surely benefit people who are starting out in business and would like to produce professional-quality materials.

Although I hope that you will continue in the home-office direction, I have one criticism—you often give only the telephone numbers of sources mentioned in the articles. In many cases, I would prefer to write, and would appreciate an address.

LAWRENCE MORLEY
Lodi, New Jersey

EDITOR'S NOTE: *Information on promotional pieces will be covered in a desktop publishing feature in April.*

I enjoy your profiles of home-based businesspeople who have "done it with computers." I particularly like the Snapshot boxes that mention the software they use, but you seldom give the publisher's address or telephone number. Why not add a section in the back of the magazine or a box within the article to provide this information, as you do in Machine Specifics? I am sure other readers would appreciate it as well.

JERRY L. CROSSNO
Norris, Tennessee

EDITOR'S NOTE: *Good point, and one we'll try to implement.*

KEEPING PHOTOS ON TRACK

The December 1988 issue of your magazine ("It's All Relative," page 66) made reference to a specialized database called *Phototrack*, which aids in the cataloging of slide and photo libraries. I am interested in any additional information you can provide on this program, and where I may obtain a copy of it. Thank you for your assistance.

VINCE ULSTAD
Brandon, South Dakota

EDITOR'S NOTE: *For information, contact Phototrack Software, 6392 South Yellowstone Way, Aurora, CO 80016, or call (303) 690-5532. Customization by developer Charlie Summers is part of the package's \$125 to \$795 price tag (depending on the extent of customization).*

SPREADSHEET EXAMPLES

I enjoy your spreadsheet column. However, your October article on lookup tables omitted several helpful points that might help your

readers combine spreadsheet functions:

1) Lotus 1-2-3 will match different cases, such as *venice* and *Venice*, in a lookup table with the formula @VLOOKUP (@PROPER(B1),A11..D15,1).

For this command to work, the word for which you're searching must exist in your table with the first letter capitalized and the rest lowercased.

2) Use range names in formulas to make it easier to recall the cell contents to which you are referring. Two examples:

a) Assign the name "TABLE" to cells A11 to D15.

b) Assign the name "SEARCH" to cell B1. Then the command becomes:

@VLOOKUP(@PROPER(SEARCH),TABLE,1).

BILL HOOVER
Butte, Montana

Rob Krumm is one of the few writers who explains a subject, instead of just showing off knowledge. His articles on spreadsheets are a joy, with examples I can understand.

EDWARD J. RUPARD
Chesapeake Beach, Maryland

FAX NUMBER

Our business consists of a private mailbox center, UPS/air express shipping station, and a fax service, and we provide various other business services, including business cards, rubber stamps, mail forwarding, and signs.

Since we are always interested in additional ways to promote our services, when I read your story "A Public Fax Booth on Every Corner?" (November 1988, page 10), I became interested in contacting the ActionFax USA, Inc., marketing people. Can you supply a fax number or address, please?

HAL CARLSON
Bellevue, Washington

EDITOR'S NOTE: *You can reach ActionFax USA, Inc. by calling (800) 544-0416.*

EDITORS ON-LINE

Your magazine is concise, yet the articles cover the panorama of computing and business topics. I especially appreciate your indicating when an article is targeted toward Apple or IBM, and Nick Sullivan's pieces on the work-at-home environment.

So that readers could reach you faster, would you consider setting up a bulletin board system, or establishing a conference area on an existing one?

JIM CURTIS
Johnstown, Ohio

EDITOR'S NOTE: *You can leave messages and letters for HOME-OFFICE COMPUTING editors in the Home-Office Computing message section and data library of Compu-*

Serve's Working from Home Forum (GO WORK). For information on CompuServe subscriptions, call (800) 848-8199.

COMPUTER IS KEY

As must be the case for most of your readers, the computer has been one of my most important business tools, and the key to the success of my company, Professional Nursing Services.

I run my operation with the following equipment: an Austin 286 running at 12.5 MHz with one 1.2MB floppy-disk drive; a 40MB hard-disk drive; 1MB of RAM; EGA; an Epson LQ-800 printer; a UPS-200 1200-baud modem; a Mouse Systems mouse; and a Canon PC-3 copier. My software comprises *Page Perfect*, *Q&A 3.0*, *PC Tools Deluxe*, *DAC Accounting/Payroll 3.0*, *Hold Everything!*, *PC Paint*, *Fast Forms*, *Twist & Shout*, and *ProComm Plus*.

MICHAEL J. DEPRAIDA
Flushing, New York

WE'RE SERIOUS

I work out of my home, and the computer is an essential element in my work life. Although I want to keep up with what's happening, I really don't need detailed technical information. Thus, HOME-OFFICE COMPUTING's coverage is right for me.

One thing I don't like—occasionally I feel that you are talking down to those who work from home by profiling people who are toying with part-time work. What many of us are doing is real business that demands long hours and hard work, and if we're lucky, it's fairly profitable.

Otherwise, I like your reports on how other home-office workers are faring. We who work out of our homes need to know what's happening among our peers. I like the reviews of more practical types of hardware and software, and I like the fact that you describe and feature home-office equipment other than computers. The computer is the central piece, but the rest is important too.

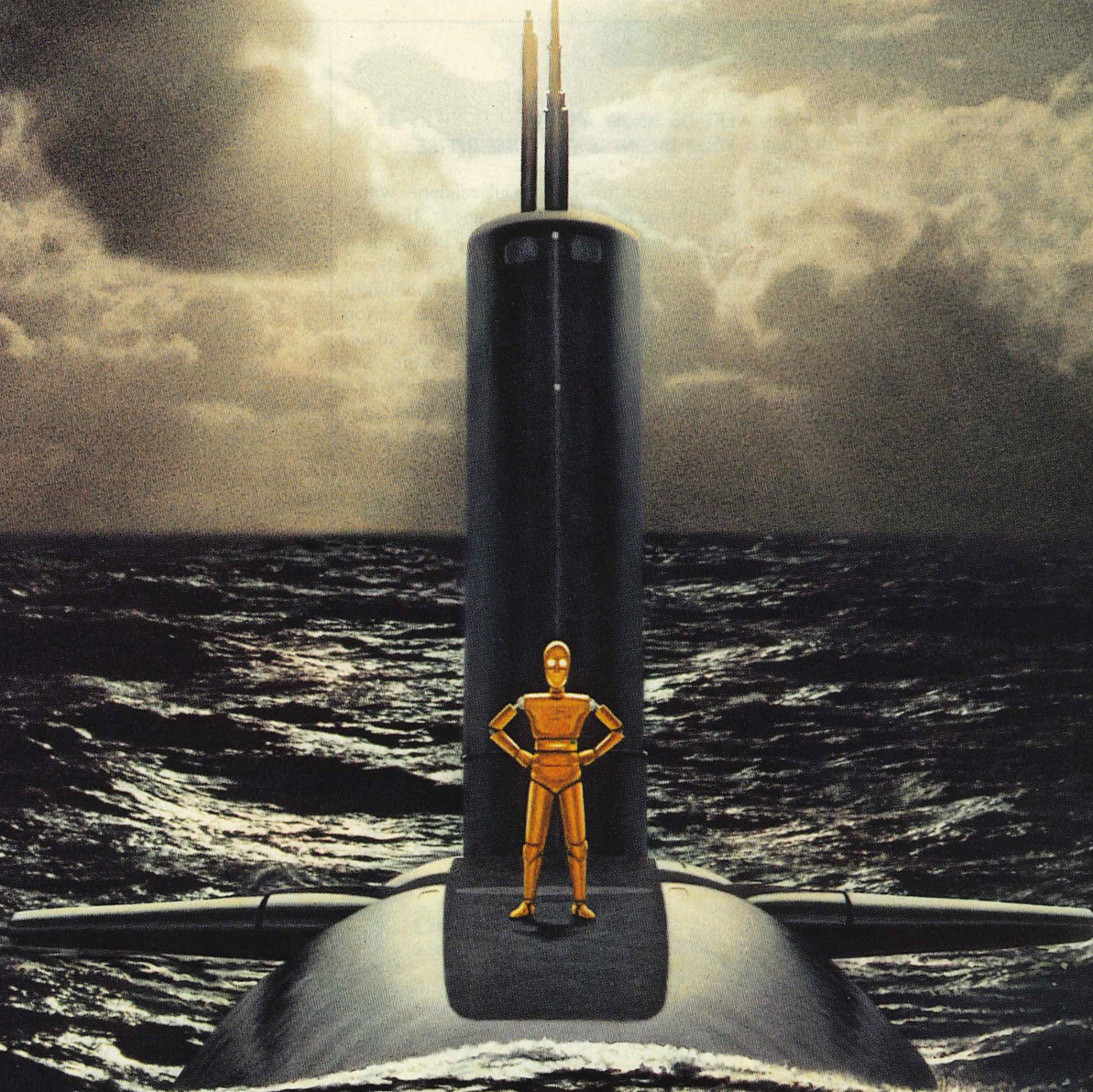
C.E. GIBBS
Hudson, Wisconsin

CORRECTIONS

December 1988; Finance; page 40. The IRS has recently provided us with the following information: The 100-percent self-employed can contribute to an I.R.A. However, if the business owner also has a Keogh plan, the amount of deductible contributions to the I.R.A. may be limited. In such cases, it is best to consult a certified public accountant or licensed tax preparer.

January 1989; Top Stars of Word Processing; page 49. Regarding technical support

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CIRCLE READER SERVICE 31

for Microsoft Word and WordPerfect (mentioned on page 53, column 3): WordPerfect offers toll-free technical support at (800) 321-5906. Microsoft offers toll-free product information at (800) 426-9400; technical support requires a toll call to (206) 454-2030.

HOME-OFFICE COMPUTING looks forward to letters from all its readers. Please direct your correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include your name, address, and phone number. We reserve the right to edit letters for length and clarity. Due to the large volume of mail we receive, we are not able to respond personally to every letter.

LET US KNOW ABOUT YOUR BUSINESS OR HOME OFFICE

We're eager to hear about readers' work-from-home experiences and needs. If you, a friend, or an associate operates a home-based business, telecommutes, or works at home for a corporation, please let us know about it. Give us a few details, such as the startup story; financing methods; marketing strategies; family members involved; and the computers, software, and related products that are used. Include the business name, address, telephone number, and a photograph if you have one. ■

We all must pay taxes even Melissa.

So she gave her dad **Tax Shop 1040**™. Melissa chose **Tax Shop 1040** because it's simply the best tax software available for under \$100 (And it's better than most that cost more!) Tax Shop uses scrollable input screens that resemble actual tax forms to make it fast and easy to use. It supports 4 print options (including laser), 33 states, and over 30 tax forms and schedules, including the new "kiddie tax" Form 8615 for Melissa.

No Locks or Limits: **Tax Shop 1040** is not copy protected and does not limit the number of tax returns that may be prepared.

Guaranteed: Melissa and her dad are so pleased with **Tax Shop 1040** that they want you to try it. Now in its third year, Tax Shop has been used to prepare thousands of tax returns. Take advantage of Tax Shop's 15-day money-back guarantee and order today!

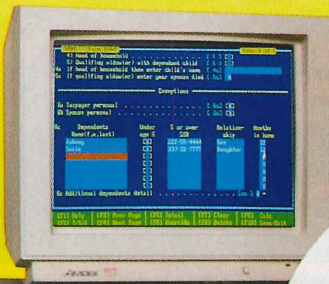
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HARDWARE REQUIREMENTS: IBM[®] PC or compatible, 256K RAM or greater, MS/DOS[®] 2.1 or greater, a Hayes[®] compatible modem, and two floppy drives or a hard disk system.

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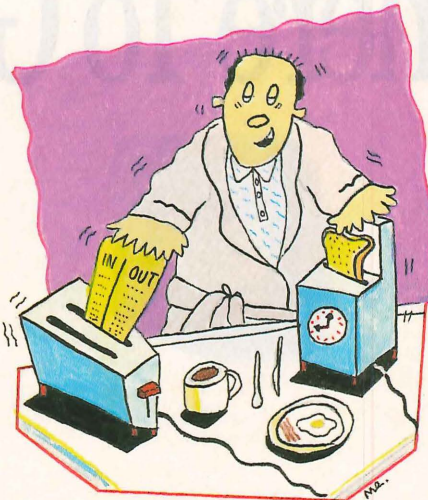
EDITED BY LISA WU

IBM Pioneers a Work-at-Home Program

IBM has a reputation for recruiting some of the nation's brightest minds. Big Blue also has a reputation for being "a good company to work for." The benefits package is often one of the corporation's strongest drawing cards for attracting new talent.

Recognizing that the work world is changing, corporations are exploring new options. Among the pioneers, Big Blue is piloting and expanding four work-flexibility programs—Personal Leave, Increased Start/Stop Time Flexibility, Community Service Career, and most notably, Work at Home—for its more than 228,000 U.S. employees. "Our programs are mirroring the changes in the national employment demographics, with more women, dual-career couples, single parents, and older individuals who may want second careers," said William Colucci, vice president of personnel, IBM US.

"We survey our employees periodically, and we're hearing, 'Give us flexibility that fits our work and personal lives.'" said Mike Shore, IBM spokesman. "IBM is a full-employment company—we hire for life. And we strongly believe that, if we accommodate our employees, the pay off for IBM



is in higher productivity, morale, and loyalty."

The Work-at-Home program is an extension of the Personal Leave program. Work at Home accommodates those who have taken a sabbatical and want to continue to work part-time. An employee working at home must perform jobs that don't require constant in-

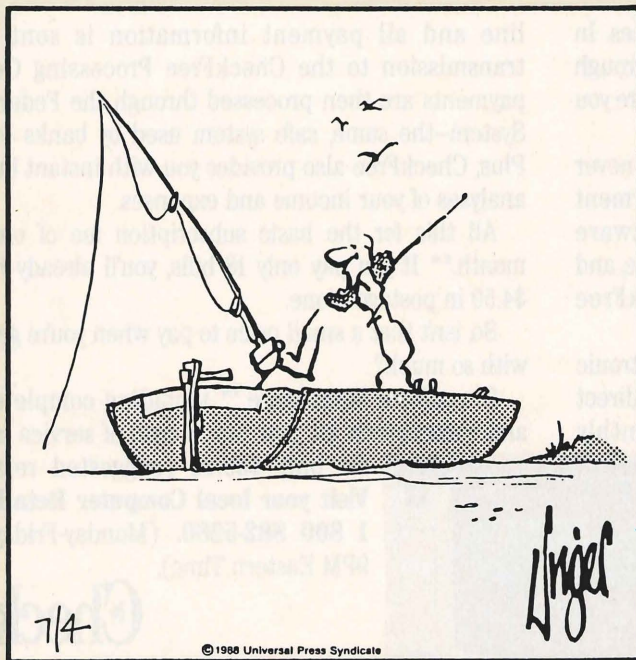
teraction with other team members. For example, a programmer could work from home and come to IBM once a week to discuss the project and receive a new assignment. IBM is piloting this program at facilities in Atlanta, Georgia; Dallas, Texas; and Santa Teresa, California, to determine which departments are best suited for the program.

Employees may request a three-year leave of absence for a "unique, once-in-a-lifetime opportunity" under IBM's Personal Leave of Absence program. They continue to receive benefits and are assured of a job when they return. Employees on leave may continue to work part-time at home or at IBM, depending on business needs.

Two other programs are the Increased Start/Stop Time Flexibility and the Community Service Career program. Increased Start/Stop Time gives employees adjustable stopping and starting hours. Community Service Career program encourages retiring employees to start second careers in community or nonprofit organizations concerned with social issues such as literacy, substance abuse, unemployment, AIDS, or affirmative action.

—LISA WU

ILLUSTRATION BY ME. COHEN

HERMAN®


"I'll call you back in a couple of days. I'm pretty busy right now."

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Small Offices Are Big PC Buyers

Small-business and home-office owners spent \$5.48 billion on computers in 1988, according to CAP International, a Norwell, Massachusetts, market-research firm. CAP projects that in 1990 this sector will spend almost \$7 billion on computers and will buy one-third of all desktops and laptops.



CHART BY BOB CONRAD



Children don't get private lessons in public schools.

In today's classrooms, there's not much room for individual attention. That's why you need to stimulate your child's mind at home. You need Socrates.™

A technological breakthrough in teaching.

Socrates is the complete Educational Video System, for ages 5 and up, that can turn your television into a one-to-one learning and fun center. You simply connect the main unit to your TV



Wireless remote keyboard can be used up to twelve feet away.



antenna input, and your TV screen comes alive with colorful animation that guides your child through math, spelling, word games, art and music. No other equipment

is necessary. Your child's responses to questions and problems appear on the screen by using a wireless remote control keyboard.

Spelling, math, music, art.

5 built-in subjects. Over 90 program variations.

The reason children learn so much with Socrates is that they interact with Socrates. In all, there are more than ninety involving programs that will advance your child's thinking at his or her own pace. Math activities include step-by-step tutoring, challenging math quizzes and games for two.

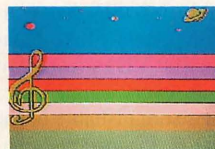
There are word games where children can name the objects, learn spelling, play Hangman,

Word Search and Word Scramble.

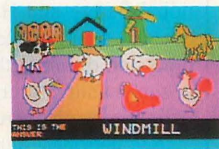
The Socrates Super-Painter lets your child create their own computer generated drawings. And when children tune in to the



Super-Painter.



Music.



Spelling.

musical games, they'll find ten pre-programmed songs to play along with. Or, they can program notes to create their own songs.

Adding to the system is child's play.

Expanding Socrates is as easy as inserting a new cartridge. There's an optional voice cartridge and other subjects include higher-level math programs, word programs and action games.

Socrates is also prepared to teach pre-schoolers numbers, letters, shapes and colors with an easy-to-use Touch Pad tablet. Add the optional remote Mouse system and you have an ideal introduction to Computer Aided Drawing (CAD) systems, including four drawing modes from architecture to fashion.

With Socrates, the learning and the fun will grow with your child.

Socrates makes the grade.

Socrates can stimulate your child's mind, build your child's confidence and help to make your child a better student. When you bring home Socrates, you bring out the best in your child.



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Helping children learn one-to-one.

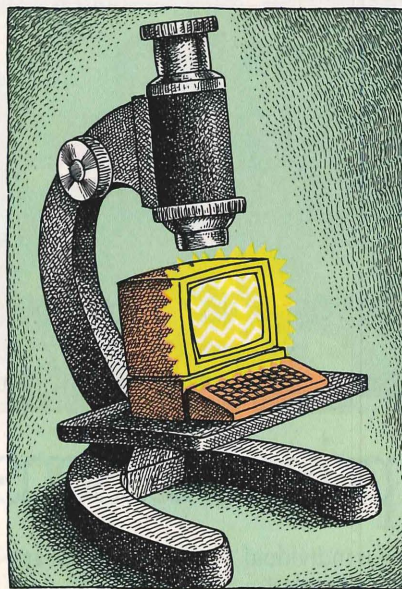
'Terminal' Illness? Fears and Facts

VDT phobia is spreading across the nation: In May, Suffolk County, New York, passed a law requiring employers to regulate the use of VDTs (video display terminals) for permanent employees working on them continuously for more than 26 hours a week. And the results of a study done in Oakland, California, by Kaiser Permanente Medical Care Program indicated that pregnant women in administrative and clerical support jobs who use VDTs more than 20 hours a week have about twice as many miscarriages as women who don't regularly use VDTs.

At first glance, these stories are enough to cause even the most avid computer user to pause and deliberate. But before you panic, let's take a look at the VDT fears and the facts.

FEAR 1: Radiation from computer screens can damage your eyesight and maybe even cause cancer.

FACT: The National Institute of Occupational Safety and Health (NIOSH) has conducted radiation measurements in 12 locations and on more than 300 VDTs from two dozen manufacturers. In every single case, radiation levels were indistinguishable or far below national standards for occupational radiation exposure.



FEAR 2: VDTs cause miscarriages in pregnant women.

FACT: No definitive study has yet concluded that there is a cause-and-effect relationship between the use of VDTs and spontaneous abortions. In reporting their study, Kaiser Permanente researchers stated clearly that many factors were unaccounted for, including working conditions, job-related

stress, and the tendency of women who have miscarriages to blame them on VDTs. In fact, the rates of miscarriages among women in managerial and professional positions using VDTs more than 20 hours a week were reported to be essentially *equivalent* to those of non-VDT users in similar posts, suggesting that job-related stress may play an important role in inducing miscarriages.

FEAR 3: VDTs themselves are harmful to your health.

FACT: Most experts agree that it is most likely that the working conditions associated with VDTs—not the VDTs themselves—often cause stress, spinal pain, and eyestrain in frequent users. The symptoms associated with constant VDT use are almost identical to those of anyone who sits continuously hunched over a desk or typewriter, according to Nathan Edelson, director of the Center for Office Health and Productivity Enhancement in Silver Spring, Maryland. He suggests minimizing glare, placing diffusers over fluorescent lights, using corrective eyewear adjusted for comfortable reading at a distance of about 30 inches, and taking frequent breaks to stretch. Most important, avoid staying in one position for too long, says Edelson. "Take a break; go for a walk."

—BRIANNA POLITZER

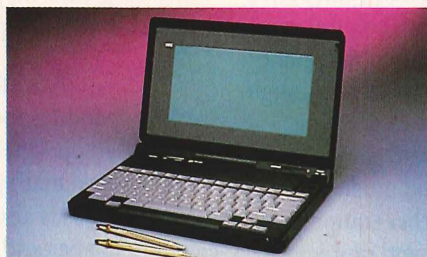
Laptop Explosion

Frequent business travelers who've grown tired of overstuffed in-boxes and staggering to-do lists may be fueling the rush of recent laptop introductions. Compaq, IBM, NEC, Sharp, and Toshiba unveiled a total of nine new portables before the holidays. And figures from Dataquest, a San Jose-based market-research firm, indicate that laptop sales are taking off, after a slow start. The number of units shipped worldwide is projected to reach almost two million in 1990.

Sharper resolution, hard-disk drives, 80286 microprocessors, and smaller, lighter battery packs are making the lightweight machines heavy news. Here's a look at three:

- The 14-pound Compaq SLT/286 resembles an oversize lunch box and is the first laptop to support the VGA standard. The new backlit LCD display is one of the clearest in the laptop market (see "Hardware Reviews," page 64).

- Size and weight are the strongest selling points for the NEC UltraLite. It's not much bigger than a three-ring binder, weighs only 4.6 pounds, and is the smallest notebook computer that offers MS-DOS compatibility.



The NEC UltraLite is not much bigger than a three-ring binder.

Instead of the traditional program-on-a-disk approach, applications are available on ROM cards. A floppy-disk drive is optional.

- If you're hungry for power, take a look at the Toshiba T5200. Like the Compaq SLT/286, it sports a display that supports VGA and features a full-size keyboard, two expansion slots, and a 40MB or 100MB hard-disk drive. There is one drawback—you'll need an AC outlet to operate the unit.

While we don't see a drop in prices (they range from \$1,000 to \$11,000), we should see more features. Will color make a splash on displays? And when will an 80386-based battery-operated portable arrive on the scene? If the advancements propelled by the recent laptop explosion offer a clue, these features are surely on the horizon.

—STEVE C.M. CHEN

A University for Eggheads?

Egghead Discount Software, a rapidly growing retail chain known for its "eggceptional" and "eggcentric" marketing techniques is moving into "eggucational" territory. The Washington-based company has founded Egghead University, a computer hardware and software training school. Egghead U. has set up campuses in Los Angeles, Chicago, San Francisco, Seattle, Boston, and Washington, DC.

You can sign up for one- to three-day classes on such software packages as Lotus 1-2-3, dBase III+, dBase IV, WordPerfect, DOS, Microsoft Word, PageMaker, and Symphony. Classrooms are equipped with state-of-the-art hardware: 286 computers, laser printers, and scanners. Fees for courses range from \$185 to \$275.

Or help will come right to your home via Eggs On Legs: Trained technicians from Egghead are on hand to diagnose problems, install hardware and software, and give you software training.

Call (800) EGGHEAD for information on programs in your area. —LISA WU

WHAT YOUR ACCOUNTANT MIGHT NOT WANT YOU TO KNOW*

* **Andrew Tobias' Tax Cut** lets you prepare a professional quality tax return yourself — even if you're a novice at tax preparation.

All the features you need

Tax Cut automatically calculates and prints your completed 1040 return and up to 23 other IRS-approved forms and schedules. It finds the tax approach that saves you the most money: whether you should file jointly, itemize, take the zero bracket amount, and much more. It features an instant tax summary window that lets you see where you stand at any point in the program, and "What if" calculations on any form or schedule for important planning before year-end.

Works like an easy interview

Unlike other programs, Tax Cut "interviews" you in friendly layman's terms and without IRS jargon — the same way an empathetic accountant might. It uses your answers to automatically select the schedules you need, and then computes and prints your tax return based on current tax law. All you do is answer, sign and file!

You answer each question only once. Tax Cut automatically transfers the information to every line or schedule where it's needed, and performs computational checks to make sure your answers are consistent.

With Tax Cut, you need not see any IRS forms until the program prints your return. (If you do wish to review the forms on-screen, just use the easy display feature.)

Saves you valuable time

With Tax Cut, even the most complex tax returns rarely take more than one hour. Compare that to time-consuming trips to an accountant. Or treks through the January slush to get the proper forms from the IRS office. Or the time-burning tedium of mistake prone manual preparation, which has you transferring the same information from line to line and form to form.

Saves you money, too

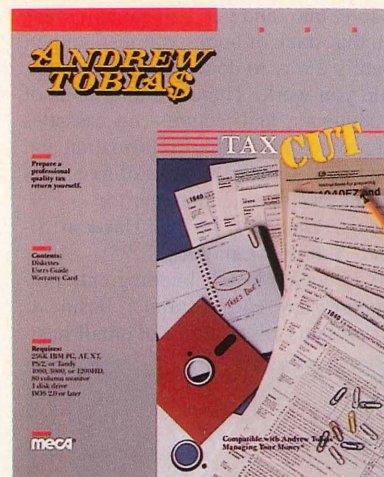
Tax Cut helps you know what financial decisions to make, and when to make them, for maximum tax savings. It eliminates the mathematical errors that can result in overpayment. It checks to see that you don't pay more FICA than you should (a common mistake). And most important, with Tax Cut there's no more need to spend significant amounts of money for professional quality tax preparation you can easily do yourself.

Comprehensive yet simple

Tax Cut is written by a team of tax professionals and personal finance expert Andrew Tobias. Together, they bring you a program that is fully comprehensive and current, yet simple enough for even a tax novice.

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Unlike any other program, if the IRS makes you pay a penalty because of a mathematical miscalculation in Tax Cut, we'll pay the penalty.



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- Accepts leading printers.
- Compatible with Andrew Tobias' Managing Your Money.

Requires:

- 320K IBM® PC's or compatibles
- 80 column monitor • 2 disk drives • DOS 2.0 or later
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Form	1040	Department of the Treasury - Internal Revenue Service	U.S. Individual Income Tax Return 1988	(2)	HOC
Label		<input type="checkbox"/> YES, I'd like to do a professional quality tax return easily and inexpensively. Send me Tax Cut for \$79.95 + \$2.50 shipping and handling (CT residents add 7 1/2% sales tax).			
please print or type.		Name _____			
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Filing Status		<input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Head of Household <input type="checkbox"/> Joint			
Credit card # (V, MC, AMX)		exp. _____ 5 1/4" 3 1/2"			
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Listen While You Work

Your reading list is growing. You just jotted down the title of that marketing-strategy book, there's a sourcebook on taxes you want to look into, and you still haven't made a dent in that stack of books you just bought. Now there's a way to do double time: listening while you work. There are thousands of books, seminars, and lectures, on cassettes that can provide a wealth of information and save you time. Here are reviews of five tapes that you may want to lend an ear to:

● *Growing a Business*, by Paul Hawken (Simon and Schuster Audio; \$8.95), offers practical advice on how a budding entrepreneur should start and sustain a business. Hawken presents case studies of small busi-



nesses that beat the odds and became successful. *Growing a Business* covers all the "trade skills" (as Hawken calls them) you'll need to make your venture grow. Some of his advice seems unorthodox at first. Instead of tailoring your plan toward bankers and investors, Hawken advises you write a plan that clearly states what your business is about and where it is going. Then it becomes what it is supposed to be—your business plan! You can listen to this tape repeatedly and find something new each time.

● *The One Minute Manager Meets the Monkey* (Simon and Schuster Audio; \$14.95) is an edited version of the successful seminar series run by Kenneth Blanchard, author of *The One Minute Manager*, and William Oncken, Jr., best known as author of the *Harvard Business Review* article "Management Time: Who's Got The Monkey." This

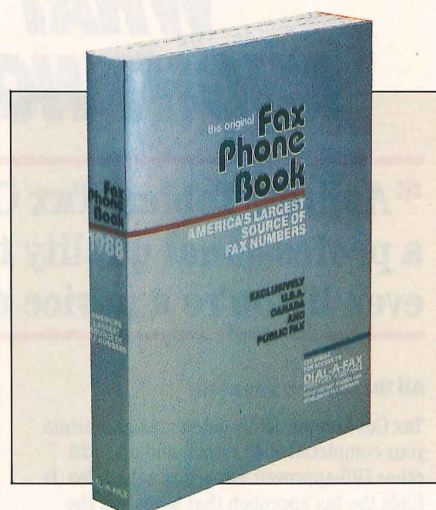
120-minute tape is geared toward managers working in large corporations, but the advice is useful for anyone who has to deal with people. Through his crusty and humorous commentary, Oncken effectively describes how to get monkeys (problems) off your back and onto the backs of those who should be taking care of them. Blanchard follows up with practical theories of managing people.

● A friend once described business as "meetings interrupted by meetings." Working at home doesn't exempt you from having to attend meetings. But how do you make the most of them without squandering your precious time? George David Kieffer's *The Strategy of Meetings* (Simon and Schuster Audio; \$8.95) is chock full of ways to make meetings useful, productive, and brief. Kieffer gives advice on how to showcase yourself at meetings to make a lasting impression on a client or potential client. The author stresses that meetings are "the single most important window on your professional life." You could have worked on a presentation or project for weeks, but it may be at one short meeting that it's accepted or rejected.

● It's impossible to conduct business without a phone, yet most of us take it for granted. George Walther's *Phone Power: How to Get Whatever You Want on the Telephone* (Simon and Schuster Audio; \$8.95) teaches good phone skills that can have a positive effect on your business. The tips on how to avoid "telephone tag" make this tape invaluable.

● Paul and Sarah Edwards were among the first to realize that work had taken a new direction—away from the office and back to the home. Their book, *How to Succeed at Working from Home*, is good reading material for anyone considering setting up shop at home. The cassette version, by the same title, (TDM/McGraw-Hill; \$9.95), is structured around the most-often-asked questions. There is also a section that lists a number of businesses that can be started from home. While other cassettes offer more hard-core business advice, *How to Succeed at Working from Home* will definitely offer inspiration.

—STEPHEN MILLER



Look It Up In the Fax Directory

With the facsimile-machine revolution has come a much-needed service: fax directories. Although it remains to be seen if regional phone companies will get into the act, a few private companies are already publishing listings of selected fax numbers. There is little competition and directory prices are high—up to \$70. But as the numbers of fax-using companies grow, these directories will become indispensable tools.

One company, Dial-A-Fax Directories Corporation, includes a directory-assistance service that gives you access to more than one million fax numbers when you order *The Fax Phone Book*. The 1988 edition of *The Fax Phone Book* (\$69 plus shipping and handling) lists 120,000 fax numbers, organized alphabetically by state and by Canadian province. A free listing in *The Fax Phone Book* is available, whether or not you order the directory.

The Fax Phone Book may be ordered by calling (800) 346-3329 or faxing (305) 421-2040. And you can call (800) 346-3329 to get your fax number listed.

—BRIANNA POLITZER

Free Business Advice for Entrepreneurs

Who said there would be no freebies once you started your own business? The Service Corps of Retired Executives (SCORE), sponsored by the United States Small Business Administration, gives free counseling and low-cost seminars to those who are interested in starting a business and businesspeople who need further advice. SCORE, a 24-year-old nonprofit group, has counseled

more than 2 million people nationwide—more than 342,000 in the past year alone.

Whom does SCORE cater to? "Anybody who would lavish TLC—Time, Labor, and Capital—on a business," says Gus Berle, director of marketing for SCORE. "Or anyone who wants to B.Y.O.B.—Be Your Own Boss." The counselors are retired executives who want to share their know-how and ex-

pertise with a new generation of entrepreneurs.

For more information on SCORE counseling and seminars, call (800) 368-5855 or look in the blue pages of your city telephone directory, under United States Government/Small Business Administration.

—BRIANNA POLITZER

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Checkwrite Plus performs bookkeeping functions more thoroughly than other programs. You get income and expenses by tax category — not just a list. You get more complete budgeting and cash forecasting, and better graphics. Reports are a whole lot easier to create.

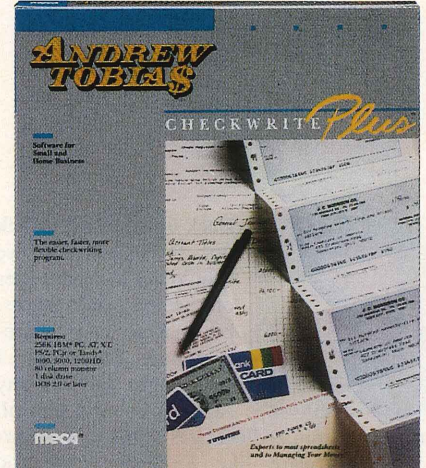
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CIRCLE READER SERVICE 33

Advice for Farmers and Consultants

BY JOANNE PRATT



Back up! Back up! Back up! We all know we should back up the files on our hard-disk drives, but it is so easy to procrastinate. Last week, I got caught and lost my January column and all

of my customized changes to the new *WordStar*. Software like *Fastback Plus* and *PCTools Deluxe* (see HOME-OFFICE COMPUTING, September 1988, page 86) can speed up your backups—but only you can push the keys to make them happen!

Q. I'm interested in using a computer for our home business, a grain and livestock farm. I am especially interested in how farms and similar businesses have adapted database and spreadsheet software for several different tasks. I plan to purchase a Tandy 1000 TX this year since it is the only brand serviced locally. Are there any books available on adapting specific software for farm accounting and cattle and crop records?

M.S.
Pearl, Illinois

A. Microcomputers on the Farm: Getting Started, by Duane E. Erickson, Royce A. Hinton, and Ronald D. Szoke (Iowa State University Press, Ames, IA 50010; \$7.95) may be just the book you need. Also, North Central Computer Institute (NCCI, 667 WARF, 610 Walnut St., Madison, WI 53705; [608] 263-4791) is a good source of software. The NCCI Public Domain Software Catalog (\$2.75 postpaid) cites templates for spreadsheet programs, accounting programs, and other inexpensive software packages for farmers. Commercial and university software is listed in AGCITES, a three-megabyte database of 1,800 titles and brief descriptions. The file is available on three disks (\$20). You can search by key words or by machine type. A hard copy is also available (\$25).

Do you know about the Farmers' Software Association (FSA)? It's a "cooperative association created to meet the needs of computer users in agriculture." A \$36 membership will provide you with a support group of other agricultural computer users, a newsletter and computer bulletin board, and soft-

You can deduct costs associated with the part of your residence that you use exclusively and regularly for your business. You do not need a separate entrance.

ware discounts. For a small fee, you can try out demo copies of specialized software for 30 days before buying. Call FSA at (800) 237-4182 for details.

Q. I'm a computer consultant and freelance writer. Nine years ago I started my own home-based business. I want to know if I need a separate entrance to my office in order to claim a home-office deduction.

HOWARD BERENBON
West Bloomfield, Michigan

A. You can deduct costs associated with the part of your residence that you use exclusively and regularly for your business. You do not need a separate entrance. To obtain a free copy of the guidelines, call the Internal Revenue Service at (800) 424-3676. Publication 587 "Business Use of Your Home" spells out the use tests and explains how to calculate your deduction if you qualify.

Q. I have a start-up company (incorporated) specializing in high-end computer graphics for television and video. I would like to set aside part of my monthly gross income for taxes. I would work the tax allocation into my business plan, as I do with equipment and salaries. Can you provide me with a rough equation to calcu-

late the amount I should set aside each month?

PAUL WANG
New York, New York

A. You're really wise to do this. Here's what C.P.A. Mitzi Walsh of Dallas, Texas, advises:

Since you are incorporated, the tax rate on net income is 15 percent of the first \$50,000, 25 percent of the next \$25,000, and 34 percent of income above \$75,000. These rates apply only to that enterprise and do not cover any other income such as wages from another source.

Start setting aside your estimated payments the first month you make a profit. Estimate your cumulative annual profit and divide by 12 months. You pay the tax in quarterly installments; the exact months will depend on your fiscal year. IRS form 1120 W is a worksheet for computing estimated taxes for incorporated businesses.

For sole proprietors (not incorporated), the 1988 tax brackets based on net income are as follows:

- If single, 15 percent of the first \$17,850; 28 percent of income up to \$43,150; 33 percent of income up to \$89,560.
- If married and filing jointly, 15 percent of the first \$29,750; 28 percent of income up to \$71,900; 33 percent of income up to \$149,250.
- If married and filing separately, 15 percent of the first \$14,875; 28 percent of income up to \$35,950; 33 percent of income up to \$113,300.

Additionally, sole proprietors must pay a self-employment tax of about 13.02 percent on the first \$45,000 of net income. Calculate the tax due as described above and pay installments on both taxes by the same dates.

IRS form 1040ES and Publication 505 will lead you through the calculation of estimated taxes. (For a copy call [800] 424-3676.) And of course you should consult your own accountant for details.

The IRS holds one-day small business workshops on taxes for corporations and individuals. Call (800) 424-1040.

Q. I am a computer specialist and hardware and software instructor with experience in maintaining computer systems. I am currently trying to start my own business from my home involving



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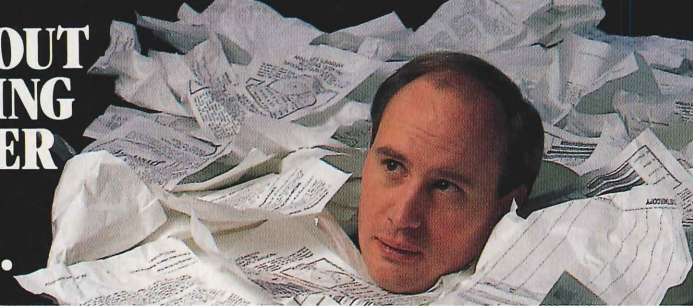
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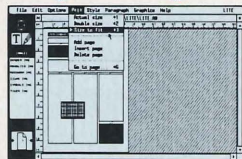
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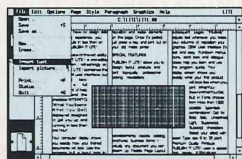
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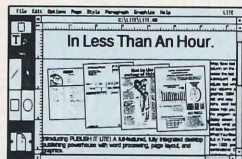
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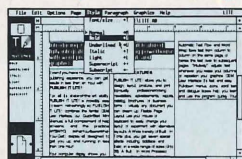
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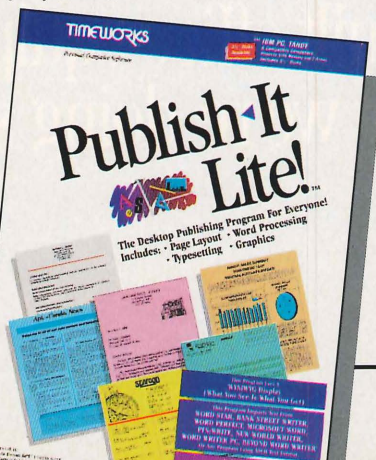
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I would appreciate any information on working from home using my computer skills.

YVONNE M. CONNER
Dayton, Ohio

A. To continue computer instruction, use your good credentials to generate contract work from former employers.

To win government contracts, you must register with various agencies. For example, begin in your local area by calling the City of Dayton, the Ohio State Government, and the contracting center of the Small Business Office for Wright Patterson Air Force Base. Ask for the purchasing department and request the forms that place you on the bidder mailing list. Since you're a woman-owned business, you may have an advantage in winning bids. Invest \$3.75 in the new manual, *Women Business Owners: Selling to the Federal Government* (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325; [202] 783-3238). This guide provides marketing tips and copies of forms you'll need. Once your firm is registered, you will begin receiving requests for proposals (RFPs).

UPDATE ON HOME-BASED MEDICAL TRANSCRIPTION

My response to Sandra Wemmerus in the August 1988 column may have been misleading. A former health services administrator, Albert R. Witkins of Morton Grove, Illinois, writes that there are legal and insurance barriers related to patient confidentiality when medical records are removed from hospitals. I spoke with several companies that hire home-based transcriptionists. Some materials that are not part of patients' records can be transcribed at home, such as tapes of doctors' dictation. There seems to be a fine line between what can and cannot be transcribed at home. ■

SEND US YOUR HOME-OFFICE QUESTIONS

Send your questions on taxes, legal issues, developing a business plan, capitalizing, marketing and public relations, or any other business-related issues to Joanne H. Pratt, c/o ShopTalk, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Please print your name, address, and telephone number on all correspondence. Pratt is a nationally known researcher, consultant, and speaker on the subject of home business.

Answers to Readers' Questions

EDITED BY JEFF DONAHUE

FAX BOARD FACTS

Q. Will a fax board for my computer have the same capabilities as a dedicated fax machine? How do the prices of these two items compare?

PAUL VOZNIAK
Woodbridge, Virginia

A. Because facsimile boards cannot send material that isn't on a disk (without a scanner), many industry analysts regard facsimile boards as a complement rather than an alternative to the dedicated fax machine. In general, fax boards have many of the features we have come to expect from a stand-alone facsimile machine, such as: delayed transmission, automatic redial, the ability to send to multiple machines, and the capability to send a request for a transmission. A fax board will let you send a document you have created with your computer or an image you have scanned. Received documents can be viewed on screen, saved on a disk, or printed out on many standard printers. These received documents will be recognizable to your computer only as images; they will *not* be saved as text files and you *cannot* use them in your word processor.

Good dedicated fax machines cost about \$1,000 (*See our buyer's guide to fax machines in the November issue*). This is the type of machine you will want if the documents you send are of different sizes or are otherwise not easily translated to computer format. On the other hand, for around \$400 you can have a fax board that will allow you to readily send word-processor, spreadsheet, or database documents that you would otherwise have to print out before feeding to a facsimile machine.

Quadram Corp. (Quadram, One Quad Way, Norcross, GA 30093-2919; [404] 923-6666) manufactures the JT Fax board for \$395 and might be a good place to begin an investigation.

ASCII MYSTERY

Q. I'd like to unravel the mystery of ASCII. What is it and what are its functions? BETTY HERR

Beach Haven, New Jersey

A. The American Standard Code for Information Interchange (ASCII) was created by the American National Standards Institute to allow the easy exchange of information among computer products produced by different manufacturers. An analogy to ASCII might be the universally understood picture signs seen in international airports. No matter what language you speak, you can understand that

the signs point toward food or ground transportation, for example.

In a similar vein, ASCII is an agreed-upon numerical representation of all uppercase and lowercase letters, numerals, and standard punctuation symbols (variations occur with non-standard characters). In everyday terms, this means I could compose a chart on my IBM XT using, say, *SuperCalc 4*, save the file in ASCII format, and upload this data via modem to a business associate who owns an Apple IIe. This associate could then edit the text on a word processor, perhaps *AppleWorks*, and upload it to a database on a distant mainframe computer. My IBM, his Apple, and the mainframe would all be able to work with and understand the same text—thanks to ASCII.

Some programs, in the interest of saving memory, use their own storage formats, instead of ASCII, to save text information. In order to be able to move this information among programs and computers, be sure you have the option to save your data in ASCII format.

LOOKING FOR QUALITY

Q. I have heard that machine language is a powerful programming tool. What is machine language? Is this what I need to produce professional-quality software? TONY JACKSON

Port Angeles, Washington

A. Machine language is the "native tongue" of a computer. Compared to human language, which is composed of thousands of words, a computer can only understand a limited set of commands composed entirely from two numbers—0 and 1.

This binary language, as it is called, is difficult and tedious for many people to work with, and consequently programmers rarely use machine language anymore. The modern option, assembly language (often incorrectly equated with machine language), is close to machine language, but it is slightly more comprehensible.

The advantages of using assembly language are speed and versatility; anything your computer is capable of is done at the fastest possible speed. Its disadvantages include being difficult to learn, slow to program, and difficult to debug.

Unless you are willing to put in long, frustrating hours of learning, programming, and debugging, there are alternatives to assembly that will still keep your programs quick and flexible—just like the pros. In

fact, professional-quality software can be (and is) designed using such languages as C, Pascal, and compiled BASIC. Intermediate to advanced programmers will probably find C and Pascal to be the languages of choice for most applications. Less experienced programmers can still achieve surprisingly impressive results with compiled BASIC. Some versions you might want to look into include: *QuickBASIC* (Microsoft Corp., 16011 NE 36th Way, Box 97017, Redmond, WA 98073-9717; [206] 882-8080; \$99 for IBM or Macintosh), *Turbo Basic* (Borland International, 1800 Green Hills Rd., Scotts Valley, CA 95066; [408] 438-8400; \$100 for IBM), and *ZBasic* (Zedcor, Inc., 4500 East Speedway, Tucson, AZ 85712; [602] 795-3996; \$90 for IBM, \$200 for 512K Macintosh).

COPY PROGRAMS

Q. Are there programs that let you copy older, copy-protected software onto a hard disk?

BOLKO RAWICZ
Vancouver, B.C., Canada

A. Some older programs have copy-protection schemes that don't let you make back-up copies, or that only let you make a back-up copy on a floppy disk. You can try two things if you want to install these programs on a hard-disk drive. First, check for an updated version of the program; updates are usually fairly inexpensive. If the program is still available, it almost certainly supports hard-disk drive installation (game programs are less likely to support this feature than applications programs). Second, investigate backup utility programs. Many older copy-protected programs have been "cracked" by these backup programs, allowing them to be archived on a hard disk. A good first program to look into is *COPY II* (Central Point Software, Inc., 15220 NW Greenbrier Pkwy, Suite 200, Beaverton, OR 97006; [503] 690-8090; \$40), which has versions for many computers.

If you have technical questions or computer ailments that need diagnosis, our technical staff will try to help. Although we cannot answer each letter personally, this column will deal with frequently asked questions and common problems. We reserve the right to edit letters for length and clarity. Please include your name, address, and phone number with all correspondence. Send your letters to: Clinic, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. ■

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New Mac II

MCA vs. EISA

Tandy Announces . . .

APPLE / MAC

BY CHARLES H. GAJEWAY
MAC

Apple's new Mac IIx offers nothing special for home-office users. Despite its use of the advanced 68030 processor and the super-speed 68882 math co-processor, the IIx is only 15 percent faster than the standard Mac II. The main thing you get for the \$2,900 added to the price of the already expensive standard Mac II (\$5,098) is the new 3.5-inch 1.4MB SuperDrive. In addition to storing 75 percent more data than an 800K diskette (perfect for backing up ever-larger hard drives), it can read data in seven formats, including MS-DOS and ProDOS. Apple may make this drive available later this year as an upgrade or an add-on for current Macs.

Alternative Sources. Recently, Mike Minot, a reader from Guam, noted that it is difficult for him to obtain new software and hardware for his Macintosh. Though there aren't too many other readers as far away as Mike is, I bet that there are lots of folks who live away from metropolitan centers and feel isolated from the mainstream of Macintosh activity.

One solution is using the established mail-order companies that take pride in being much more than just telephone-order takers. Well-informed, courteous, and helpful, they offer discounted prices and quick delivery as well as informative and frequently updated catalogs. Firms like MacConnection, MacWarehouse, Software That Fits, and CDA Computer Sales function as alternative dealers for those who live and work away from metro hubs.

APPLE II

A common complaint I've heard from Apple IIGS users concerns the slow start-up speed as the machine loads programs from floppy drives. If you have a memory expansion card, you can configure it as a RAM drive, using a RamKeeper battery back-up unit (Applied Engineering; \$189) to keep files alive and instantly available when you turn on the computer. But the 1MB of RAM on your Apple card will not be enough to hold *AppleWorks GS*, which leaves you the option of investing in a hard-disk drive or an additional memory expansion card to get the performance you want from the newer, memory-hungry programs.

Disk Problems. If you own a GS equipped with both Apple Disk 3.5- and 5.25-inch drives and sometimes the 3.5-inch drive turns on for no reason and spins until you press CONTROL-RESET, there is a solution. A revised interface board for the Disk 3.5-inch drive available at no charge from your Apple dealer will end the mysterious spinning.

Disaster could strike at any time with some Duo-Disk drives. You may damage some copy-protected disks (especially those from Software Publishing and Electronic Arts) when you press CONTROL-OPEN APPLE-RESET to re-boot. The problem seems to be triggered at random, so a drive may act up after working properly for some time. If your drive has exhibited this kind of behavior, take it to your Apple dealer for a free repair (labor is free, parts are extra).

CHARLES H. GAJEWAY can be reached on CompuServe (ID: 73357,3577) or on GENie (ID: C GAJEWAY).

IBM / MS - D O S

BY HENRY F. BEECHHOLD &
STEVE MORGENSTERN

The near future of desktop computing lies principally in machines based on the 80386 microprocessor. The battle lines in this market have now been drawn between IBM's own MicroChannel Architecture bus design (MCA) and the Extended Industry Standard Architecture (EISA) design planned by a group of nine IBM competitors. What does this war mean for the home-office user?

If you are comfortable with your current MS-DOS computer, then you need only sit on the sidelines and watch the fun. But if your old computer is reaching the end of its useful life insofar as your computing needs are concerned, you'll have to do some seri-

ous thinking about the next move, especially if you feel that a 386 machine is the way to go. You could upgrade from a PC/XT to a 286 (AT type) computer, getting a lot of computing power at a reasonable cost. But for all-around whiz-bang computing power, go for a 386.

So now you have to decide whether to go with the Industry Standard Architecture (ISA), MicroChannel, or with the not-yet-available EISA. Hang in for a while and see how the dust settles. Manufacturers of MCA expansion boards may be forced to make downward price adjustments and to speed up production. —H.B.

EISA Advantages. The connection between expansion cards—such as memory boards, modems, or video cards—and the CPU is called a bus. Until about a year ago, there were two industry-standard bus architectures—the PC bus and the downward-compatible AT bus. Then IBM introduced its PS/2 computers (Models 50 and above) and with them the MicroChannel Architecture bus system. Big Blue proclaimed its MicroChannel as the next industry standard.

One major problem arose. Unlike earlier bus structures, which are basically available for anyone to use, the MicroChannel Architecture is protected by IBM patents. Of course, IBM offered to let other PC manufacturers hop on their new bus—but the fare for licensing this technology is steep.

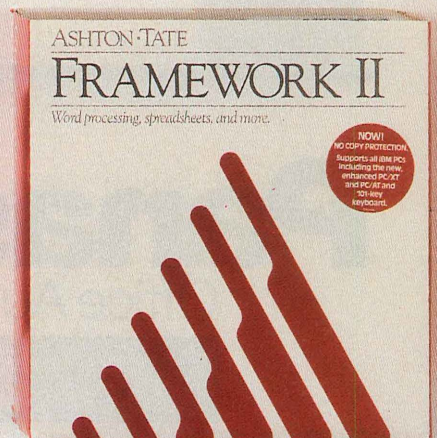
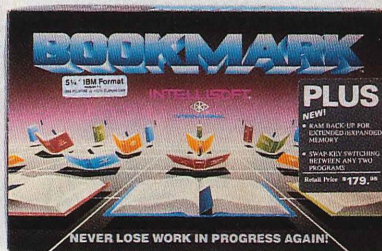
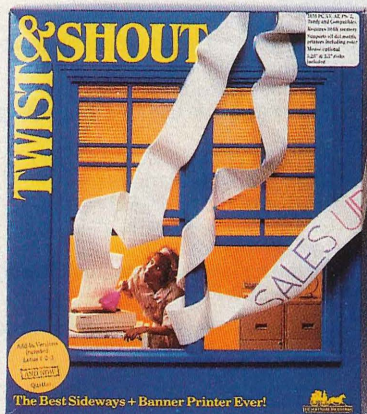
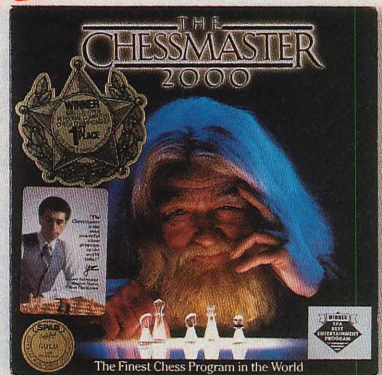
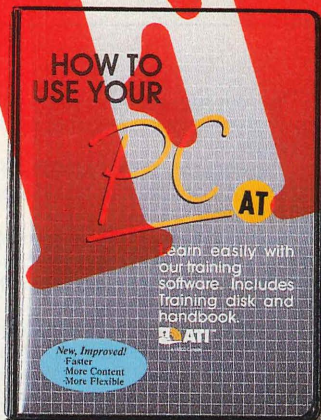
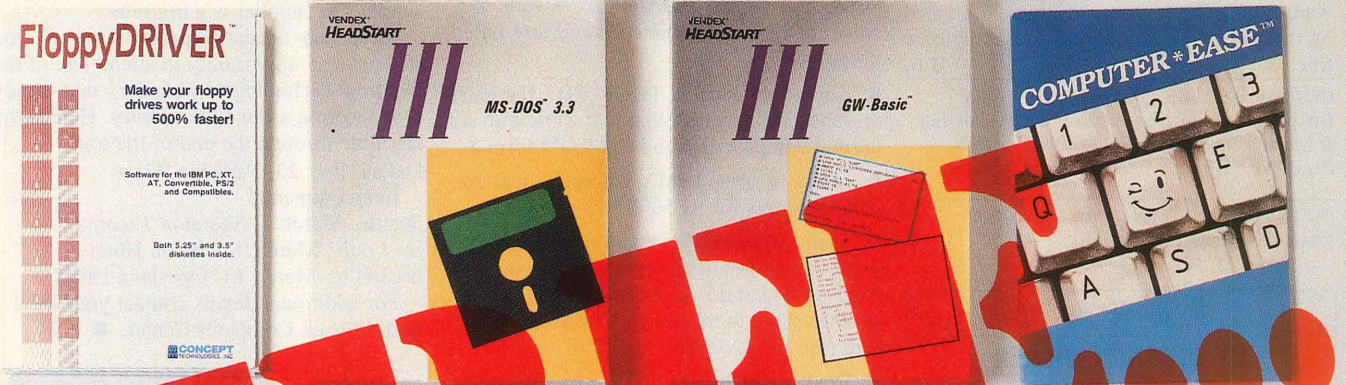
Hence EISA, whose supporters claim it will match or exceed MicroChannel performance—and these supporters are a veritable Who's Who of MS-DOS-compatible computing. The list includes major manufacturers like Compaq, AST, Epson, Hewlett-Packard, NEC, Olivetti, Tandy, Wyse, and Zenith.

There are two key reasons to keep your eyes on EISA. First, the EISA architecture will work with existing expansion cards as well as new cards developed specifically to take advantage of the new specification's advanced capabilities. The MicroChannel, on the other hand, is incompatible with the previous standards. Thus, if you want to make the jump to MicroChannel, you have to leave behind any expansion boards you already own.

Second, EISA computers should enjoy an economic advantage over similarly configured MicroChannel models, since there will be no high royalty fees to pay for using the new bus. —S.M.

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IBM (800) 426-2468
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SWFTE International (302) 429-8434
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Tandy (817) 390-3011



Glyphix LaserJet Font Generator. I began using *Glyphix LaserJet* fonts (SWFTE; \$100) shortly after I got my HP LaserJet Plus printer. The program allows you to modify the basic font styles for point size, weight, slant, and expansion (with a variety of fill patterns). Everything is done through a simple menu system—mainly point and shoot. The instant test print of a new font lists all of the parameters selected and makes an excellent hard-copy reference. When you are satisfied with the look of a font, *Glyphix* will save it as an HP compatible font description table usable by any program that accepts HP software fonts. The high-quality fonts produced by this program seem almost too good to be true. — H.B.

HENRY F. BEECHHOLD is the author of *The Brady Guide to Microcomputer Troubleshooting & Maintenance* (Brady Books, Prentice Hall Press, New York).

STEVE MORGENSTERN can be reached on CompuServe (ID:72545,606).

TANDY

BY STEPHEN MILLER

Figuring out what Tandy is going to do next has become an interesting game to play. Just

about the time that I recover from one surprising Tandy announcement, another one is slipped into one of my electronic in-boxes. I'm suffering from data overload! The past few months have produced more interesting news from Tandy than from any other computer company—and that includes IBM. Here's just a sample of the announcements:

- Tandy acquires GRiD Systems, the maker of one of the most powerful (and arguably the best) portable computers on the market.
- Tandy licenses its *DeskMate* interface to other software developers for use with 8086, 8088, and 80286 based PCs. Several key software houses announce *DeskMate* based programs.
- Tandy announces THOR-CD, the first erasable compact disk that will work with all current compact disk and CD-ROM formats.
- Tandy licenses IBM's MicroChannel Architecture bus for its 5000 MC computer.
- Tandy joins with eight other major computer companies in announcing the Extended Industry Standard Architecture (EISA) bus, an alternative to the MicroChannel Architecture (see IBM/MS-DOS section).
- Tandy and Digital Equipment Corporation (DEC) reach an agreement under which Tandy will manufacture PCs for DEC and

DEC will service Tandy-brand products owned by DEC's customers.

What does all this mean to those of us who work at home? In the short term, it means that Tandy/Radio Shack can cover just about all your computer/business-equipment needs. Tandy has one of the widest ranges of computers on the market—from the dirt cheap but usable Color Computer all the way up to a powerful 20MHz 386. It also means that you can go to one place for most of what you need for your business. Just the savings in time—one thing home-office workers never have enough of—in not having to run from supplier to supplier is a big plus.

Technology Seminar Update. Some of you still have an opportunity to attend one of the Leading Technologies Seminars that Tandy is sponsoring around the country. Here is the schedule through the end of the tour:

Dallas, Feb. 23, Park-Inn Plaza

Intercontinental

Seattle, March 7, Sheraton Tacoma

St. Louis, March 9, Clarion Hotel

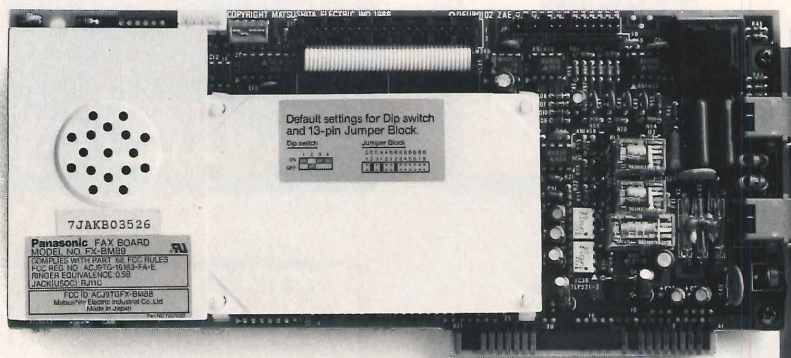
Nashville, March 14, Opryland Hotel

For additional details contact your local Radio Shack Computer Center. ■

STEPHEN MILLER can be reached on Tandy's PC Link on-line service (ID: PCSTEPHEN) where he hosts the hardware forum.

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2. Barbara Clifford and Sally J. Price, "PC FAX BOARDS," *Info World*, April 25, 1988.

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EXPANDABLE TO: 3 megabytes
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KEYBOARD: 101 key PS/2 compatible
GRAPHICS: VGA Autosync
FLOPPY DRIVES: one 5.25" 1.2 megabyte, one 3.5" 1.44 megabyte

HARD DRIVE: 32.1 megabyte, 28 milliseconds, 1:1 interleave
BUILT IN INTERFACES: Parallel, 2- RS232 serial, mouse, joystick
EXPANSION SLOTS: 3 available
MOUSE: Standard
SOFTWARE: DOS 3.3, GW Basic, HeadStart Advanced Environment, Floppy Driver, Framework II, 3-D Graphics, AT1 and Computer-EEZ Tutorial Software, Xtree hard disk manager, Publish-it! Chessmaster 2000, Splash VGA paint program, Bookmark, plus Twist and Shout.

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How to Format Documents Quickly and Accurately

BY HENRY F. BEECHHOLD

Using Templates with Any Word Processor

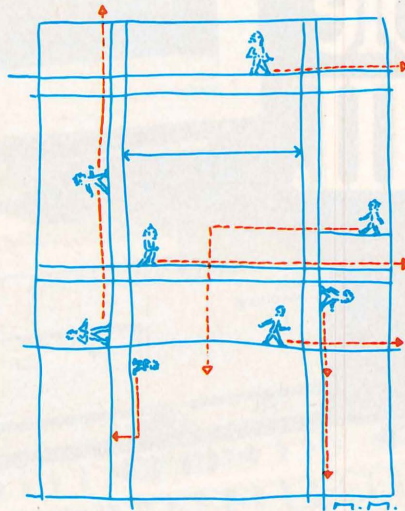
My earliest days with a word processor (several years back) were a time of wonder. I was amazed at what I could do with the program just as it was. Eventually, however, the magic left, and I began to chafe at what I now perceived as inefficiencies in my word-processing activities. I was tired of trying to remember whether a particular type of document should be set up this way or that. And I felt that using reminder notes—pieces of (ugh) paper—was counter to the spirit of the enterprise. So I came up with the idea of predesigned style-sheet templates. Whenever I worked on a document that needed to be formatted differently from others I had already done, I took a little extra time to make a template file for that type of document. Eventually I had amassed a complete personalized set of templates. Was it worth the extra time and effort? You bet.

Style sheets—that is, customized formatting templates—are great timesavers when it comes to creating documents you frequently use. Style sheets, now popular features in many “full-service” word processors—including Microsoft Word and WordPerfect—let you preformat a document’s margins, line spacing, pagination, headers, footers, fonts, and other non-text elements. So you can forget about these details during text entry. When you’re ready to print, you simply merge the appropriate style sheet onto either the whole document or sections of text.

What if your word processor doesn’t offer a style-sheet feature? Sure, you can continue working just as you have been—entering the formatting information each time as though you’d never done it before. Or, you can set the defaults of your word processor for the format you use most often and override them when needed. Or, you can use a way that approximates the custom style-sheet idea.

SETTING UP FORMAT TEMPLATES

The first step in approximating style sheets is to list the types of documents you regularly produce. An inventory could include several letterheads (each related to the intended kind



of recipient, from family and close friends to acquaintances to business contacts), order forms, invoices, memo forms, and article layouts. In my business, for instance, the entire letterhead is included with the date, inside address, salutation, body text, and complimentary close dummied in. To use the letterhead, I load it into the word processor, immediately rename the file to prevent writ-

ing over the format template, then fill in the dummied text. The figure represents what my template looks like, with comments in brackets to the right.

With a dot-matrix or laser printer, you can choose from a variety of enhancements, including such combinations as bold italic. The horizontal line specified in the sample template can be omitted, but I like the effect. You might also experiment with printing all of the letterhead text flush right or centered across the page in a single line. Play around until you get a clear layout that you like. Used with high-quality bond paper and a letter-quality—especially laser—printer, your homemade letterheads could well serve all of your needs.

No matter what word processor you use, templates save time and increase accuracy when formatting documents. However, a word processing utility known as a “text formatter” also works with nearly any word processor—and saves even more time.

HOMEMADE STYLE SHEETS

I use an MS-DOS text formatter called *HighStyle* (\$375; Lattice, [312] 916-1600) to control my printouts because the formatter

A TYPICAL TEMPLATE FOR A BUSINESS LETTER

.margin top=1in bottom=2in	[set top/bottom margins]
.margin left=1.5in right=1.5in	[set left/right margins]
.ln 66	[set 66 lines per page]
.center James Dryer	[center name]
.center Tudor Enterprises	[center company]
.center 101 Slow Lane	[center address]
.center West Fishhead, TX 77777	[center city/state/zip]
.line	[draw a horizontal line]
.just right	[set text flush right]
(Month, Day, Year)	[dummied date]
.sp 2ln	[two line spaces]
.just left	[set text flush left]
(Inside Address)	[dummied recipient's address]
.sp 2ln	[two line spaces]
Dear (Name):	[dummied salutation]
.just full	[set text justified left and right]
(letter's text)	[dummied body text]
.just left	[set text flush left]
.sp 2ln	[two line spaces]
.in 2.5in	[indent 2.5 inches]
Sincerely yours,	[letter's close]
.sp 4ln	[four line spaces]
James Dryer,	[letter's close]
President	[letter's close]

HENRY F. BEECHHOLD is a contributing editor for HOME-OFFICE COMPUTING.

By setting up the format of regularly used documents ahead of time with a template, you can become more productive with your word processing.

takes full advantage of my laser printer's capabilities, and does it without my having to spend a lot of time fiddling. The word processor itself is used only for entering text. (It doesn't matter what word processor I use, as long as it can create an ordinary ASCII text file.) The printer-control commands in *HighStyle* are of the "dot command" type. Dot commands—familiar to *WordStar* users—are formatting commands entered directly into the text preceded by a period (dot). Certain dot commands go at the head of the file, others here and there as required to achieve the desired text format. The dot itself must appear in the left-most screen column, as in the sample template. The program recognizes such a command as one to be acted on, but not to be printed directly. Certain word processors (or ancillary text formatting programs like *HighStyle*) accomplish the same results by slightly different means—that is, signalling commands by designators different from dots (/,@, or other characters) and letting these commands appear in locations other than the left-most margin. Which ever the method, these embedded commands let you define the appearance of the printed text—a style-sheet-like function.

Although certain formatting attributes must be entered individually regardless of the word processor (italicizing a single word, for instance), you can develop an entire inventory of general text-layout patterns even if your word processor is bottom-line simple.

SPEEDING UP ALL FORMATTING

If your word processor lets you define macros—a series of keystrokes or commands that you can invoke with a single key combination—you can enhance the homemade formatting process whether with templates or a text formatter. By storing your regularly used formatting commands—for centering a line of text, for instance—in a macro, you can enter them without hassles as you write. Some word processors (such as Microsoft *Word*, *Apple Writer*, and *XyWrite III Plus*) let you save macros as ordinary files and call them at will from within the program. One type of macro you might make does no more than automatically reprogram various keys, turning, for example, the F1 function key into one that will enter a particular format into the text whenever you want it. For example, you might program a macro to make temporary margin changes as a means of highlighting certain blocks of text, such as long quotations.

Another type of macro is more elaborate, actually providing you with a kind of programming language to perform complex tasks that could otherwise be accomplished only by typing in several commands. Typically, these macros can be any length. Using such a large-scale macro, you can create a formatting scheme as complete as the pic-

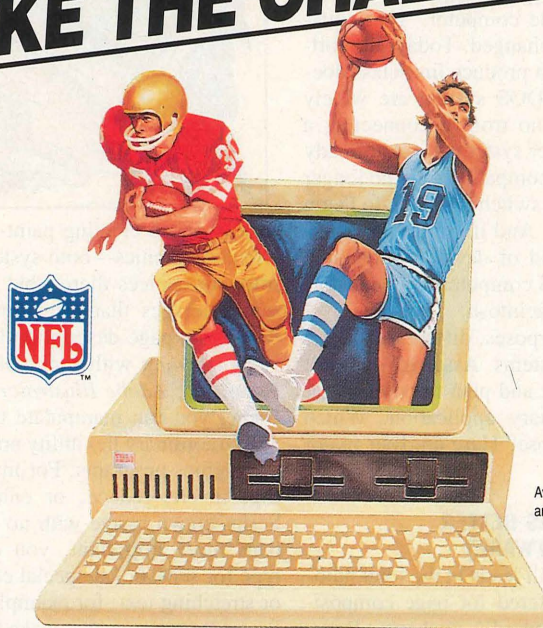
tured template and cause it to be inserted within a document at any time. Only the general layout can be handled this way. Local text manipulation—centering a particular word or line, say—must be done with specifically entered commands.

WHAT YOU CAN'T DO

There are word processors, such as *XyWrite III Plus*, and text formatters, such as Beaman Porter's *PowerText Formatter*, with powerful style-sheet facilities. They can take over the formatting of an entire document, even as far as inseting, automatic numbering, and differential typesetting of headings

and subheadings at several levels. Some word processors come with built-in routines for printing television and film scripts in standard form, as well as academic research papers and laboratory reports (*Nota Bene*, which is truly an enhanced version of *XyWrite III Plus*, comes to mind here). Some can make professional-looking indexes and tables of contents. To produce elaborately formatted documents with minimal effort, you'll have to give up your tinkerer's license and go for the software that will handle the job. But if your needs are more modest, then stick with what you have and make it work for you. ■

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Macintosh vs. MS-DOS: Which System Is Better for Page Layout?

BY STEVE MORGENSTERN

Four Questions to Ask Yourself

Thanks to Apple's LaserWriter printer and Aldus's *PageMaker* page-layout software, the Macintosh owned the desktop-publishing market for a time. You simply couldn't tackle the same publishing jobs on an IBM PC or MS-DOS-compatible computer. That situation, however, has changed. Today, the software tools needed to produce first-class documents on an MS-DOS system are widely available, and it's no trouble connecting a laser printer to either system. If you already own an IBM PC or compatible, it's no longer mandatory that you switch to a Mac to begin desktop publishing. And if you're just starting out in the world of desktop publishing (DTP), an MS-DOS computer can be just as good a pick as a Macintosh.

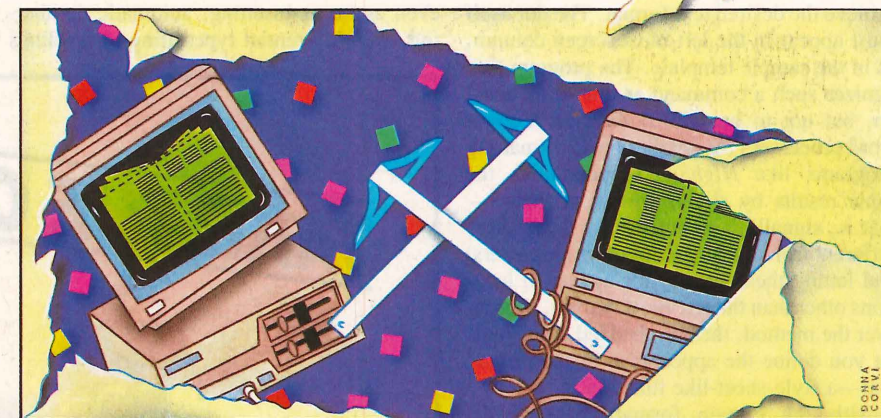
Still, for DTP purposes, differences linger between the two systems. Assume you don't own a computer yet and plan to buy one for DTP as your primary application. Which system do you choose? Here are four major points to consider.

WHICH SYSTEM HAS BETTER PAGE-LAYOUT SOFTWARE?

The Macintosh still leads in the total number of programs offered for page composition, but the "standard" package, *PageMaker*, is available in all-but-identical versions for both systems. And, in fact, my personal favorite, Xerox's *Ventura Publisher*, is MS-DOS only. (Be aware, though, that my editor's favorite, Letraset's *Ready, Set, Go!*, is Mac only.) The MS-DOS programs offer a point-and-click visual style very similar to the Mac system by using either *Windows* (with PC *PageMaker*) or *GEM* (with *Ventura*) as an operating environment. So laying out pages becomes as easy or hard on MS-DOS systems as it is on the Macintosh.

WILL YOU BE CREATING COMPUTER GRAPHICS?

Here the Mac maintains an edge, but one that keeps getting slimmer. The major differ-



ence is not in creating paint-style or object-oriented graphics—both systems offer many software choices there—but in creating on-screen images that print directly via PostScript, the page-description language.

By drawing with such software as *Aldus FreeHand*, *Adobe Illustrator 88*, or *Cricket Draw*, you can manipulate the picture with an extraordinary flexibility not found in earlier graphics programs. For instance, you can flip, invert, reduce, or enlarge any PostScript-drawn image with no distortion. Perhaps more important, you can manipulate type for sensational special effects—rotating or stretching text, for example. Unfortunately, most programs that make the creation and manipulation of PostScript images practical are for the Mac. The two MS-DOS PostScript graphic packages we've heard of are a *Windows* version of *Adobe Illustrator* and *GEM Artline* from Digital Research; both are new to the DTP market.

If your graphic requirements are less demanding, however, the two systems are roughly comparable (although the high degree of standardization of Macintosh graphic file formats makes sharing images among Mac programs simpler than with MS-DOS graphics). However, with the use of clip art, which you can buy in the specific MS-DOS file format needed, using graphics in DTP becomes easier.

WHICH TYPE OF LASER PRINTER WILL YOU BUY?

There are two types of laser printers—those with PostScript and those without.

PostScript printers start at approximately \$4,000, while the Hewlett-Packard LaserJet Series II and compatible models are in the under-\$2,000 range.

The most revealing point: Whereas an MS-DOS system will support either type of printer, Macintosh-compatible page-makeup software demands PostScript. While a PostScript printer is undeniably preferable, budget-conscious desktop publishers can turn out quality work on a lesser laser—if they're working on an IBM compatible. And the computer itself may be less expensive if it's an IBM compatible. (For more information about PostScript printers, see my October 1988 column, "Buyer, Be Aware.")

OR, DO YOU PLAN TO USE A SERVICE BUREAU FOR PRINTED OUTPUT?

Even if you can't afford a laser printer, there are service bureaus (many of them quick printers or copy shops) that will print your files on their laser printers, usually for about \$1 a page. With few exceptions, however, they're limited to Macintosh systems.

The situation is a little more flexible when you need true high-resolution typesetting. If the standard 300 dots-per-inch laser output doesn't provide adequate quality for your purposes, some services will print your publication file in magazine- or book-quality resolution using professional Linotronic typesetting equipment, at a cost of about \$10 per page. The important component here is PostScript and, as mentioned above, both Mac and MS-DOS page-layout programs can output in PostScript. However, many type-

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.

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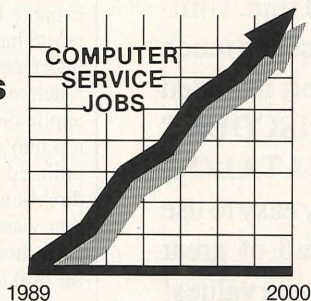
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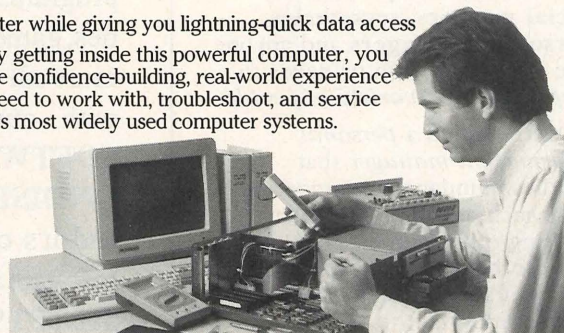


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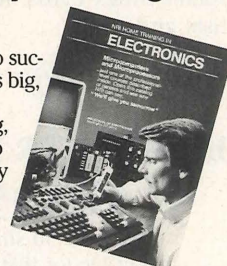


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setting service bureaus are Mac-oriented, and you may find it difficult to deliver your MS-DOS file in a form they can handle.

THE BOTTOM LINE

As the Macintosh has developed into a capable business machine and the MS-DOS world has moved toward a more graphic user interface, choosing between them has grown much more difficult no matter what computer application you are planning to tackle. Desktop publishing is no exception. If the factors outlined above don't make you lean in one direction, think about other computer tasks you want to undertake, and look for a clear edge there. Ultimately, you can be a successful desktop publisher with either system.

Ultimately, you can be a successful desktop publisher with either system.

PRODUCT NEWS AND NOTES

Although the name makes it sound like DTP software for the beer-drinking set, **Publish-It Lite!** (\$60) is really a simplified version of *Publish It!*, the mid-range (\$200) DTP package from Timeworks ([312] 948-9200). Available for 512K MS-DOS computers with two disk drives, *Lite* runs under the GEM interface for point-and-click control and supports both dot-matrix and laser printers (although it's \$40 extra for the laser-support utility). What are some of the features of the parent program that you give up in its "offspring"? The original allows up to 999 pages in a document, while *Lite* gives you room for only 4. Its parent lets you insert as many graphics as desired in a document; *Lite* limits you to 10 graphics. Finally, *Publish It!* includes "master pages," a feature similar to style sheets that helps you create identical layouts on two or more pages; this feature is sacrificed in *Lite*. Still, *Lite* can be a good introduction to DTP, and Timeworks lets you upgrade to *Publish It!* for \$99 (about half-price).

As word processors grow more complex, the line blurs between them and DTP packages. Take *WordPerfect* version 5.0, with its strong DTP capabilities. Those homeworkers who would like to use it for jobs such as newsletters and fliers can find good help in **Desktop Publishing in Style** by Daniel Will-Harris (\$21.95 from Peachpit Press, Inc., [415] 527-8555). The book's 18 chapters offer advice on such topics as *WordPerfect's* new DTP-like features, the best use of graphics, and the ins-and-outs of typefaces. ■

CIRCLE READER SERVICE 41

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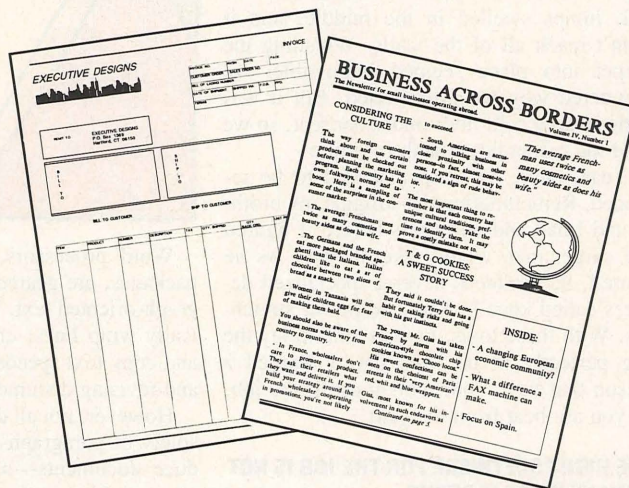
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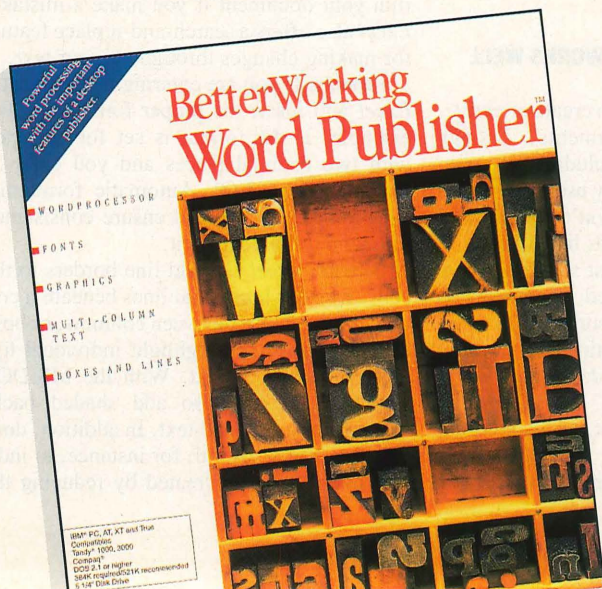
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CIRCLE READER SERVICE 51



Excel Processes Words (As Well As Numbers)

BY ROB KRUMM

How a Spreadsheet Can Help You Create Effective Invoices, Financial Statements, Estimates, Catalogs, and More

Any handyman will tell you that 90 percent of the job consists of picking the right tools. For instance, my brother and I once tried to lay a wall-to-wall carpet. No matter what we did, lumps swelled in the middle, and it didn't reach all of the walls. Wrestling the carpet into place seemed impossible; we wondered why we ever started. But it was better than a cold floor under our feet, so we held the carpet down with furniture.

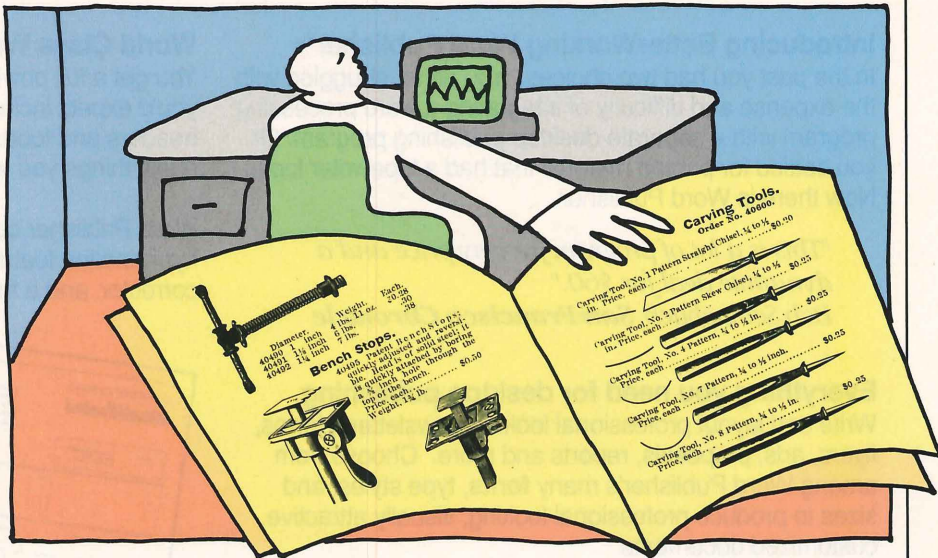
Years later, my carpet needed to be replaced. Remembering the struggle my brother and I had endured years before, I figured the carpet man would take all day. As he started, he produced several specialized devices called knee kickers and power stretchers. With these tools, he was able to lay the rug perfectly in no time flat. I learned a lesson that day: Your tools must fit the job, or you are beat from the start.

THE RIGHT SOFTWARE FOR THE JOB IS NOT ALWAYS WHAT IT SEEMS

Selecting computer software to fit the job at hand is usually an obvious decision. But sometimes, with generalized software tools such as word processors or spreadsheets, the software that fits best is a type that you might not normally consider. One program that falls into this category is *Excel*, a spreadsheet from Microsoft. *Excel* is one of the most popular applications on the Macintosh and is gaining in popularity with a version for MS-DOS computers (\$495, MS-DOS; \$395, Macintosh).

As a spreadsheet, *Excel* can help you automate a wide variety of numeric tasks from balancing a checkbook and planning a budget to analyzing sales figures and creating charts. Yet *Excel* also includes a number of text and formatting features not found in most other spreadsheets that make it ideal for handling certain jobs ordinarily thought of as word-processing tasks.

ROB KRUMM wrote about making long-term business decisions using spreadsheets in the December 1988 issue of HOME-OFFICE COMPUTING.



Word processors, including today's top packages, are geared primarily toward paragraph-oriented text. Their ability to automatically wrap lines, create indents, and move and copy text speeds the process of creating and revising documents.

However, not all documents are composed solely of paragraphs. Many businesses produce documents—invoices, financial statements, tables, estimates, bills, catalogs, and pricing information—in which all or most of the data is placed into columns and tables. The documents are all made up of numbers placed into rows and columns with accompanying short sentences or phrases. These documents can be created faster, more accurately, and more attractively with *Excel* than with most word processors.

SEVEN WAYS THAT EXCEL WORKS WELL PROCESSING WORDS

How can you use *Excel* to create effective, professional-looking documents? Though most other spreadsheets, including the popular Lotus 1-2-3, are certainly useful for creating charts and tables, they don't offer most of the special *Excel* capabilities listed below.

Column Width. The biggest single problem in creating column-oriented documents is getting the column widths correct. This usually requires tediously setting tab-stops in word processors which, if done incorrectly, results in a scrambled mess. With *Excel* you can make columns wider or narrower with a single command, and the program won't scramble words if the column is too narrow.

If you use a mouse, you can drag the column to its new width and instantly see the results. The MS-DOS version of *Excel* also lets you increase or decrease the height of a line.

Proportional Spacing. *Excel*, unlike most spreadsheets and many word processors, can print text and numbers with professional-looking proportionally spaced fonts. Because you enter data in row and column cells, the column alignment is always correct even though proportionally spaced letters can be different widths (an "I" is narrower than an "M," for instance).

Move, Copy, and Replace. *Excel* lets you easily move individual cells or entire rows and columns. With most word processors, column movement is a tricky affair that can ruin your document if you make a mistake. *Excel* also offers a search-and-replace feature for making changes throughout your text.

Formats. If you are entering numeric data, *Excel* will insert the proper formatting. For example, if the format is set for currency with two decimal places and you enter 3, *Excel* fills in \$3.00. Automatic formatting can save keystrokes and ensure consistency throughout the document.

Borders. *Excel* can add line borders to the cells, whether horizontal lines beneath a column, vertical lines between columns, or boxes that enclose and highlight individual figures or groups of text. With the MS-DOS version, you can also add shaded backgrounds to figures and text. In addition, double underlines—useful, for instance, to indicate totals—can be created by reducing the

height of a row that separates two single underlines (again, MS-DOS version only).

Fonts. You can choose from various fonts with *Excel*, as well as designate individual cells to appear in bold or italic print. In the Mac version, you can select a single font and point size from any of those available to the system. The MS-DOS version lets you combine up to four different fonts and point sizes in the same spreadsheet. If you're using a laser printer, this allows you to achieve desk-top-publishing results for your documents.

Page Preview. *Excel* offers full headers and footers for each page. You can also preview the pages on-screen before you print. This gives you a chance to see how much text will fall on each page. You can then adjust column widths or change the font's point size to get more or less on each page.

MATH TOO!

Remember, of course, that *Excel* is basically a mathematical program. You can be sure that your totals, discounts, and taxes are accurate while you are creating the document by writing spreadsheet formulas that are more powerful than those even in the most advanced word processors. By combining *Excel*'s text and formatting facilities with its spreadsheet functions, you can save time and produce many kinds of documents.

PRODUCT NEWS AND NOTES

Whether you're creating tables and invoices with your spreadsheet or analyzing complicated budget figures, you'll probably find that you often repeat many of the same steps. You could automate these frequently used procedures with macros—stored sets of instructions that you call up to perform particular functions—but setting up macros is often confusing. Confusion is alleviated, however, with **101 Macros for Excel**, a \$70 collection of general-purpose macros for either the MS-DOS or Mac version from Individual Software, Inc. ([800] 624-0077 or [415] 595-8855). The supplied macros automate operations from such simple ones as moving the cursor with the keyboard to more complex operations, such as entering the date or setting up a spreadsheet database file. Take, for example, the simple macro for boldfacing a cell's contents. While you could do this by choosing Style from *Excel*'s Format menu and clicking on bold, it would involve several steps. The macro, however, bolds all the text in the current cell with one press of a key combination. Users of Lotus 1-2-3 who want help with macros can try **101 Macros for Lotus 1-2-3** (\$70). Not only can you put the macros to work immediately with either package (the documentation is clear and helpful), you can also customize them to meet your needs. In addition, the line-by-line comments attached to all of the macros can help you learn more about these excellent tools for automating your work. ■

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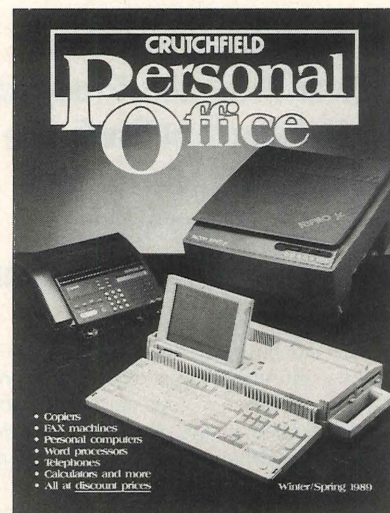
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Searching for New Business

BY JOHN F. WASIK

On-line Databases Can Deliver Profitable Prospects By Helping You Study the Competition, Scope Out Potential Clients, and Survey Geographic Regions

There's no business like new business. If you're exploring new markets for your products or services, a good on-line database can deliver new prospects right to your door (or hard-disk drive) just like a Domino's pizza—fast and hot.

Rob Roy, an executive headhunter based in his home in Providence, Rhode Island, routinely searches databases for executive prospects and companies with employees he might want to recruit. Roy glibly notes, "I can search all employers within a certain industry by state and come up with 500 companies while I shower, shave, and dress for a dinner party—that's pretty spiffy."

Roy says that his on-line searches save him at least 80 percent of the time it would take to glean information from published materials. Without the ability to gather information electronically, Roy would have to trudge to the library, pore through volumes of resources, take notes, transfer his notes onto a disk, then organize the information for his clients. He saves time by searching Dun & Bradstreet's Market Identifiers 10+, Thomas Register On-line, Dun & Bradstreet's Electronic Yellow Pages, the Computer Database, Peterson's College Database, Newsearch, and Marquis Who's Who Inc.—all of which can be found on Dialog. It's a difficult and expensive service to use, but some larger public and college libraries will search it for you for a fee.

On average, Roy estimates his searches yield successful prospects 80 percent of the time, with search sessions averaging 30 minutes. When he has the information he wants, he instantly downloads it as a *WordPerfect* file so he can manipulate the data further.

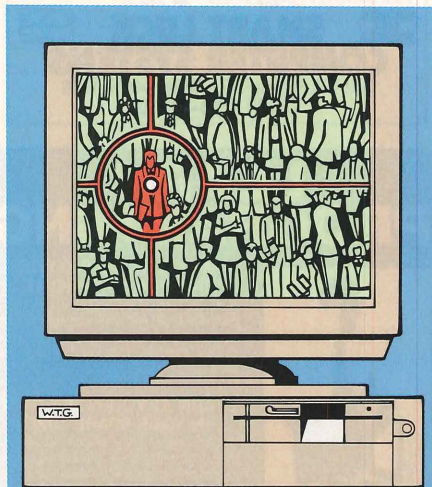
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Databases can provide direct sales and

marketing support by helping you analyze your business. You can look for prospective customers; size up markets and economic overviews; look at competitors' financial data, credit situations, and market shares; and study whole industries and how they fit into the "big picture" of the national economy and international trade. You can also research individual companies and products.

Your choice of on-line databases and the type of search you perform may vary depending on the type of business you operate, but here are a few that can benefit almost anyone running a business.

The Electronic Yellow Pages. Let your computer do the walking through this compilation of more than 5,000 Yellow Page listings. Dun & Bradstreet's Electronic Yellow Pages will help you generate sales leads,



conduct market research, and even do strategic planning. Say you're interested in selling your service to lawyers in a particular geographic area. The EYP can search by zip code and tell you how many attorneys are within a given area. Not only that, the database will supply you with phone numbers and addresses. There are even sub-sections within EYP that give you separate lists of professionals, financial services, wholesalers, retailers, construction firms, manufacturers, and miscellaneous services. The EYP is available through Dialog for \$1.20 per minute.

CACI Supersite. One little-known database offered by CompuServe will perform a demographic analysis of a specific geographic area. The CACI Supersite database will tell you, for example, the Census Bureau's data on how many dual-income families earning between \$30,000 and \$75,000 live within a

certain zip code. Learning such demographic data can help you target your product or service more effectively. Fees range from \$20–\$100 per request.

Computer Database and Disclosure. The Computer Database from Dialog and Disclosure from CompuServe offer market and financial information. You can facilitate a search through either of these databases using Standard Industrial Classification (SIC) codes, which are numbers assigned by the Federal government to businesses based on their industry classification. Using SIC numbers can help you zero in on a particular industry to analyze trends. Searches cost \$1.80 per minute on Dialog or \$10–\$50 per request on CompuServe.

Newsearch. Several databases can help you keep on top of the news relevant to your business. You can access trade journals, newspapers, magazines, dissertations, and technical literature. Newsearch from Dialog is a compilation of news in 17,000 periodicals nationwide. You could scan this database (for \$2 per minute) to see when and why a particular company, product, or individual made the news in the past few months. On CompuServe and The Source, you can search newswires such as AP and UPI by keyword. Some services, such as NewsNet, Dialog, and Dow Jones News/Retrieval, search databases and newswires for your pre-selected topics. You can select articles on a particular individual, company, industry, subject, or geographic area, and you don't even need to be sitting near a computer terminal when the search takes place.

Getting the most out of your searches involves some patience as well as time. And these services can be expensive if you don't know what you're doing before you go on-line. Always outline your search, pick your database, and set time (and money) limits before you get your modem cranked up. Some databases can cost you over \$100 an hour to use. On-line databases are generally available throughout the night and offer cheaper rates in those "non-prime" hours.

Once you're organized, you'll find you can swim in profitable information in little time. And you don't have to leave your office to do it. ■

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JOHN F. WASIK is the author of *The Electronic Business Information Sourcebook* (John Wiley & Sons, 1987, [212] 850-6000), a guide to on-line resources for businesses.

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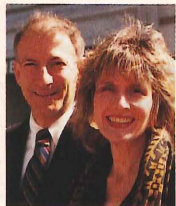
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Success Rate for Start-Ups Improves

BY PAUL & SARAH EDWARDS



In 1980, when we began conducting seminars on starting a home-based business, the failure statistics for start-up businesses were grim. The old adage was that four out of five new businesses

die within the first five years.

We were determined to help improve the odds. We felt confident that the growing information and service economy would mean greater opportunity for new businesses—in part because start-up ventures could begin at home with low overhead. We also believed that as home-based entrepreneurs mastered business skills and acquired new technology—like personal computers, modems, and copy machines—the rate of business success would improve.

And so it has! Survival rates have doubled! Now two out of every five new businesses last at least five years, according to figures from the U.S. Small Business Administration. That's a .400 batting average. And the news gets even better. Within six years, one third of small businesses show growth and, after eight years, half do. Once a small business begins to grow, its survival rate jumps to 66 percent.

Marketing Tip from Jack Trout. Jack Trout is coauthor with Al Reis of *Positioning: The Battle for Your Mind* (\$19.95), *Marketing Warfare* (\$19.95), and *Bottom-Up Marketing* (\$19.95), all published by McGraw-Hill. He spoke at The First Annual Home-Office Computing Forum, sponsored by this magazine last fall in Laguna Niguel, California. After his breakfast address, we cornered Trout and asked what his specific advice would be to home-based businesses.

"Home businesses have to play the strategies," Trout said. "They have to use guerrilla warfare strategies, find the small idea that's defensible. There's no sense in going for a big idea. That's the biggest mistake a small company makes. If it's a big idea, someone will take it away from you. So you've got to find an idea that's small

enough for you to defend. Then to make that idea happen, you've got to find a tactic that will drive that business."

Focus on Your Market. To us, putting Trout's advice to work begins with selecting a business specialty and directing your total marketing effort at the people and media in that market niche. A good example of this principle is home-based sales trainer and consultant Helen Berman, who creates sales and marketing training programs for compa-

"There's no sense going for a big idea. If it's a big idea, someone will take it away from you. Find an idea that's small enough to defend."

JACK TROUT

nies. In the past four years, Berman has developed a six-figure income by targeting the magazine publishing industry.

She markets herself by speaking at seminars and writing a sales column and advertising in the leading industry magazine. Berman regularly sends out to magazines in related fields other articles that she trades for advertising space. Her audiotapes serve as marketing tools and sources of profit. She is just beginning to use direct mail. Berman's success is an excellent example of the potential reward of concentrating your energy on a market to produce a maximum return.

Babies Healthier at Home. Many parents move their work home so they can spend more time with their children. Certainly that's one reason we moved our offices home 14 years ago. Now, recent research shows that decision can be a plus for your preschool child's health.

Scientists from the Centers for Disease Control, Emory University, and the Georgia Public Health Department have found that youngsters cared for in small day-care homes are less likely to develop respiratory infections than are toddlers attending large day-care centers.

While working from home usually does not eliminate the need for all additional child care, it does provide parents with a wider variety of child-care options. A few alternatives not available to the nine-to-five office worker include:

- Having someone care for your child in your home several hours a day while you concentrate on your work.
- Placing young children in a neighborhood day-care facility for less than a full day.
- Cooperative child-care arrangements with other at-home working parents in the area.

Winning the Battle of the Bulge. One of the most nagging questions about working from home continues to be: "But how do I stay away from the refrigerator?" We've always felt that working from home actually makes dieting and healthful eating easier because you avoid office donuts, junk food, high-calorie lunches, and cocktail hours.

A recent Kent State University study among certain groups indicates that meals eaten away from home are indeed higher in fat and calories than those eaten at home. And breakfast and snacks eaten away from home are lower in several important vitamins and minerals.

Still, we acknowledge there is a certain tendency to munch unthinkingly when the kitchen is just around the corner. However, if you make yourself aware of the amazing number of reasons you sneak to the kitchen that have absolutely nothing whatsoever to do with being hungry, you can control unnecessary eating.

Instead of eating your way through writer's blocks, snacking to calm sales jitters, and nibbling to brighten the cash-flow blues, learn to eat what you most enjoy when you're hungry, stop when you're satisfied, and find other ways to take needed breaks.

This simple but amazingly effective method of permanently solving overeating problems is made even easier with Molly Groger's *Eating Awareness Training Tapes*. For further information write to: Eating Awareness Training, 866 South Westgate, #7, Los Angeles, CA 90049; (213) 820-5771. ■

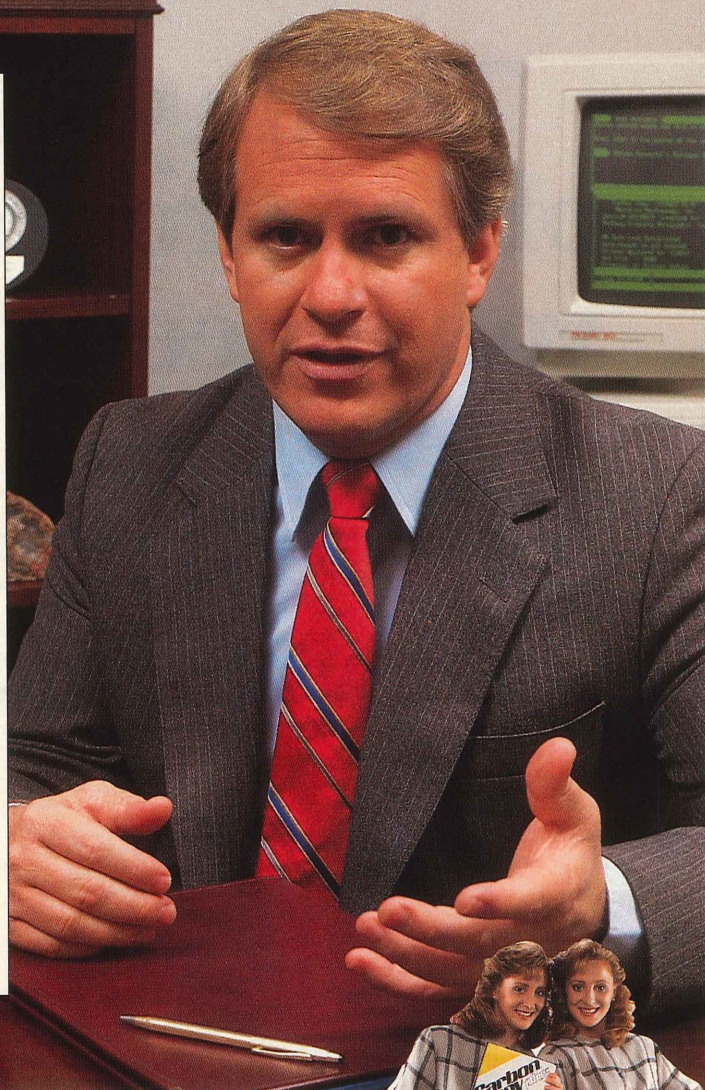
QUOTE OF THE MONTH

"Reinforce success. Abandon failure. When you abandon failure, you're in a better position to reinforce success when it does come."—AL REIS & JACK TROUT, from *Bottom Up Marketing*.

PAUL & SARAH EDWARDS are the authors of *Working From Home: Everything You Need to Know to Live and Work Under One Roof* (Jeremy P. Tarcher, 1987). They co-host the "Home Office Radio Show" on Business Radio Network. You can contact Paul and Sarah directly on the *Working From Home Forum*, which they operate on CompuServe.

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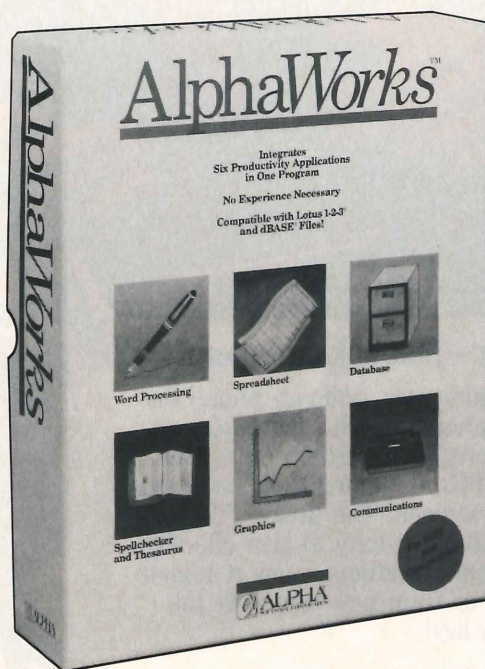
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How to Save on Taxes

An Insider's Guide

Whether or Not You Are Self-Employed, You Are Entitled to a Number of Business-Related Deductions

BY STEVEN F. EDWARDS



Let's not beat around the bush. Self-employed people are taxed more heavily than employees. Home-business owners and freelancers can pay out in taxes about 50 cents of every dollar of net income. Besides federal and state taxes, the self-employment tax—or contribution to Social Security—is 13.02 percent of net income from business (up to \$45,000).

To make up for this heavy taxation, the self-employed can take far more deductions than employees. And if they play their cards

right, they can end up paying less taxes than their employed friends. However, according to a recent national survey from the American Home Business Association, 95 percent of home-based businesses may be overpaying taxes due to lack of knowledge about the kinds of deductions allowed them.

Whatever the outcome, it's clear that taxes can or should be a consuming passion for the self-employed. Every business purchase, meal, trip, repair, and improvement has a tax consequence.

"Money is always the primary consideration," says Steven Finkel, a self-employed direct-response copywriter who has worked from home for 14 years. "I don't make any purchase without thinking of the tax conse-

quences. The equipment is so expensive, how could I even think of buying it if it wasn't tax deductible?"

Employees don't have to think about taxes nearly as much. They're more likely to think about expense accounts, which are less abstract. Spend \$20 on a business lunch and you get it back in full next month—not 30 percent of it next year. Regular tax contributions are taken from their paychecks, and there aren't many business-related tax deduc-

Since tax laws are constantly changing and every home office has a different tax scenario, Edwards and the editors of HOME-OFFICE COMPUTING recommend that you consult regularly with a certified accountant or tax preparer.

STEVEN F. EDWARDS is a San Diego-based freelance writer who specializes in business, marketing, and computer-related topics.

tions they need to track.

But they'd like to take more deductions. Many have invested heavily in computer and other equipment that they use for their work and justifiably believe it qualifies as a business expense. Other employees moonlight and pull in enough self-employment income to justify filing a Schedule C. Often, the potential tax benefits are as valuable as any source of income.

All the talk about taxes, of course, is just digging around the question: How can I pay less? This digging dredges up other questions as well: How can I streamline the whole tax process so it doesn't take so much of my time? Should I prepare taxes with my computer? Should I waste my time on taxes or just hand a shoebox full of receipts over to a tax preparer?

Whether you are thinking about preparing your 1988 taxes, or planning ahead for your 1989 taxes, this collection of short articles should give you a clearer view of the big picture. Exactly who can claim a home-office deduction is explained in "Home-Office Litmus Tests." The extent of home-office and other deductions is explained in "The Fine Art of Taking Business Deductions" and "An IRS Home-Business Scenario." Capsule descriptions of the leading tax-preparation programs are presented in "Tax-Preparation Software."

No matter how well you understand your tax situation and plan for it, there's no substitute for keeping up-to-date records. Keeping accurate records on a regular basis, rather than trying to reconstruct your tax year every April, is one tedious but surefire way to save money on your taxes.

KEEP RECORDS, CUT TAXES

"People who practice good procedures for keeping track of their business deductions get more back than the person who waits until the end of the year," says Dick Moore, a licensed tax preparer and small-business bookkeeper in Escondido, California. In addition to getting the greatest number of legitimate deductions, good record-keeping can help you survive an IRS audit. "If you have a home office, you significantly increase your chances of getting audited," warns Clifford Brown, a CPA in San Diego, California. "The IRS doesn't care how reasonable an expense is; unless you have a record of it, you don't get a deduction. It isn't necessary to keep the receipts if the expense was less than \$25, but you do need to record the information in a log book." Brown suggests taping receipts on paper and filing them chronologically in a three-ring notebook.

Peter Samelson, a magician from New York City who travels extensively, uses a "Day Runner" book to record "where I am, what the day is, and what the expenses are for—for example, travel, food, dealer supplies necessary for shows, transportation, taxis, and hotels. Each information category



If you declare a home office, you significantly increase your chances of getting audited.

is documented day by day, and is transferred to my computer when I get home."

Another reason to keep good records is to make it easier to deal with an accountant or tax preparer. The interpretation and application of tax law usually make up less than half of an accountant's fee. The major portion of the billing is for record-keeping, filing, and paper-handling. So if you have good records, your accountant can focus on helping you save money on your taxes—and charge you less at the same time.

AN IRS HOME-BUSINESS SCENARIO

You operate a part-time business from your home and file a Schedule C. You pass the home-office tests and use 20 percent of your home for the business. You take in \$12,000 in gross income. Here's how the IRS (see *IRS Publication No. 587*) would expect you to make your tax calculations:

Gross income from business use of your home \$12,000.00

Total Expenses:

- 1) Business percentage (20%) of mortgage interest and real estate taxes \$ 2,000.00
- 2) Expenses for your business in your home that are not allocable to the home itself (telephone, supplies, or labor, for example) \$ 9,000.00
- 3) Other expenses attributable to business use of your home:
 - a) Maintenance, insurance, utilities (20%) \$ 800.00
 - b) Depreciation (20%) \$ 1,600.00

Gross income limitation:

Total of (1) and (2) (allowable in full) \$11,000.00
 Limit on further deductions \$ 1,000.00
 Subtract expenses in (3)(a) \$ 800.00
 Limit on further deductions \$ 200.00
 Depreciation (3)(b) \$ 1,600.00
 Depreciation allowable \$ 200.00
 Carryover expenses to 1989 (subject to income limitations in 1989) \$ 1,400.00

COMPUTERIZE YOUR BOOKS

"If you file a Schedule C [sole proprietorship], which all self-employed people must do, you should have an accounting system that tracks your business," says John Tyler, a CPA from Cambridge, Massachusetts. "You can do that manually, but there are many reasonably priced accounting and tax-preparation programs that, once installed, make the maintenance of the records much easier."

Before setting up your record-keeping system, you need to choose one that best suits your situation. Single-entry systems are simple to maintain. They record the flow of income and expenses through receipts and disbursements, much as a checkbook does. Double-entry systems are more complex, complete with the infamous *debits* and *credits* terminology, but have built-in checks and balances to assure accuracy and control.

Computerized double-entry systems don't require a high level of accounting knowledge. Tyler recommends these double-entry accounting programs because they produce financial statements in the balance-sheet and income-statement forms with which accountants are familiar.

Of course, computer records don't replace physical records when dealing with the IRS. "Just having an item on your computer does not mean it's verified," says Judith Golden, a public affairs officer for the IRS in Laguna Niguel, California. "If you have very poor records, and don't have a receipt to match anything that you have put into your computer, IRS auditors might look at your return more closely."

It doesn't take long to accumulate several boxes of receipts, invoices, returns, and piles of supporting documentation. Unless you enjoy being a packrat, you can toss most of your files after three years, after which the IRS can no longer conduct an audit (unless you misrepresented the amount of income).

If and when you computerize your books, you need to learn a fundamental file-saving habit to protect yourself against a disk crash or failure. "I'm a believer in electronic filing, and I also have become a believer in backup copies," says Julian Gomez, who runs Polished Pixels, a home-based graphics consulting firm. "So for my accounts, I keep at least two backup copies."

Home-Office Litmus Tests

"To understand the home office in the eyes of the IRS, you really need to examine two wings of the same building," explains Dick Moore, a registered tax preparer, or enrolled agent, and small-business bookkeeper in Escondido, California. "On one side you have the people who definitely work out of their house, and who either don't have another job or are moonlighting. And then you have the people who work for a company but do some of that work at home."

To deduct home-office expenses, both self-employed and employed tax-filers must pass the following basic tests:

1) Exclusive Use. A specific part of your home must be used only for business. If, for example, you use a spare bedroom for an office, then it can't be used as a guest room. It doesn't need to be a separate room, but it somehow has to be divided off and used exclusively as a home office.

2) Regular Use. The home office must be used on a regular basis, even if you have passed the exclusive-use test. IRS officer Golden says that the definition of regular use "has to be looked at in the overall scheme of things—how much you are making, what you are doing, and how much activity is in the business." Obviously, regular use for an

outside salesperson will be defined quite differently than for someone operating a mail-order business.

3) Principal Place of Business. Your home office must be your principal place of business. According to CPA Brown, this is where most employees run afoul of the IRS, since their principal place of work is their employer's office.

If you run several businesses, you must prove that the home office is the principal location for at least one of them. According to the IRS publication 587, *Business Use of Your Home*, the three considerations for determining if your home office is the principal place of business are "the total amount of time you regularly spend doing your work there, the facilities you have to work there, and the relative amount of income you get from doing business at home."

The home office must also be where you meet your clients, customers, or patients. It's acceptable to always meet customers at their site, but if they ever come to meet you, in the normal course of business, they should come to your home office. "The purpose of this test is to weed out those who have [other offices] where they meet customers," says Brown.

4) Trade or Business. Besides passing the above tests, you must also use the home office to conduct a trade or business. Ventures such as gambling or stock investing (assuming you're not a broker or trader) do not qualify as a business use of a home office. You must be producing goods and/or providing services.

5) Employer's Convenience. For employees to deduct part of their homes for business use, they must pass the above tests and prove that the home office is for the convenience of their employer, not the employee. CPA Tyler notes, "If you have more than one office in any given employment, then you raise the question with the IRS as to which is your real office. You can only easily deduct one of them unless you can show, for example, that you see customers or patients at both places, and the home office is not just a convenient alternative."

If your employer says that a home office is a condition of employment, technically you can claim a "legally justified" deduction as long as you have proof in the form of a letter, contract, or job description. However, as Tyler points out, "The IRS will wonder why the company will not pay the expenses and then take them as a deduction."

The Fine Art of Taking Business Deductions

If you manage to navigate the home-office gauntlet, you then need to calculate the percentage of your home dedicated to business use. Suppose, for example, you're running a business out of a three-bedroom apartment, and one of the bedrooms is set up as a home office. If the office room is 200 square feet, and the total living space is 2,000 square feet, not including the garage, then you could deduct 10 percent of the rent and upkeep expenses.

If you own your own home, you'd deduct 10 percent of your mortgage payments and depreciate the office as a commercial property. (See "Selling Your Home Soon?" on next page for information on commercial property depreciation.)

Beyond that, there are limits to how and when you take the deductions. Corporate employees can also take business-related deductions even if they fail the home-office tests.

1) Direct and Indirect Expenses. There are two types of expenses associated with the operation of a home office: those totally devoted to the business, called direct expenses; and those that are partially related, called indirect expenses.

Direct expenses benefit only the business part of the home. Such expenses might include painting or wiring the home office.

These expenses are fully deductible.

Indirect expenses benefit both the business and personal parts of your home. Examples are real-estate taxes, mortgage interest, rent, insurance, repairs, and depreciation. In most cases, you determine indirect-expense deductions by multiplying the business-use percentage of your home—such as 10 percent—by the total expense.

2) Limit of Deductions. Although indirect-expense deductions are a legitimate way to defray the expenses of doing business in your home, there are limits to how much you can claim. Deductions for the business use of your home are limited to the gross income of the business. That means the home-office deductions can't create a business loss or increase a net loss from your business. However, you may carry deductions that exceed the limitations to next year's taxes, subject to the gross-income limitation for business use the following year.

This rule is unlikely to affect big money-earners, but it will affect moonlighters and part-timers. Suppose that the gross income of your moonlighting business was \$2,000 and the expenses for the business use of your home were \$4,500. You could deduct only \$2,000 this year, but could carry forward \$2,500 in deductions to next year.

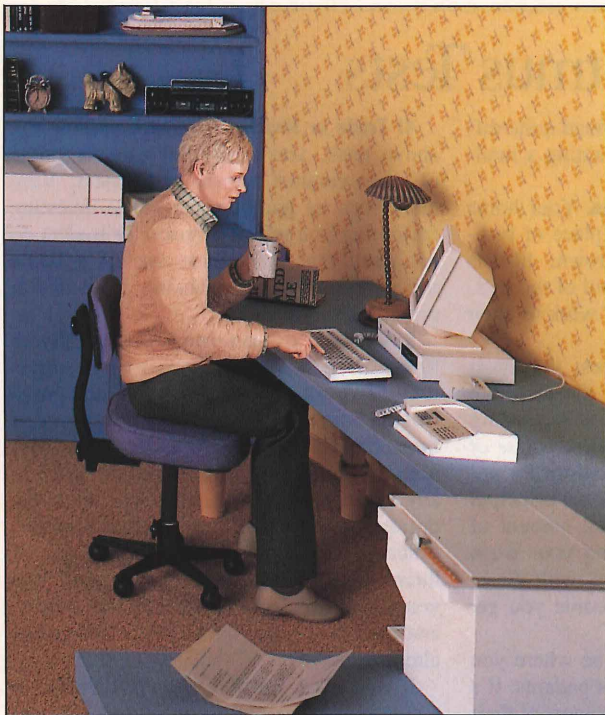
3) Order of Deductions. To prevent you

from compounding personal and business deductions, the IRS makes you take business-use deductions in the following order: (1) direct business expenses, not allocable to use of the home office, such as advertising, supplies, labor, and telephone; (2) indirect business deductions that would be deductible regardless of having a home office, such as mortgage interest or real estate taxes; (3) expenses allocable to the use of a home office, such as the utilities, maintenance, and depreciation.

4) Depreciation. If you don't qualify for the home-office deductions, you can still write off business equipment, though it is extremely difficult for employees to do so. One way is to depreciate the cost of business assets through annual deductions. How quickly you depreciate the property depends on whether or not you pass the IRS's 50-percent-use test.

To depreciate your computer or other business equipment on the five-year accelerated-depreciation schedule, you must use your computer more than 50 percent of the time for business during the tax year. If, say, you use it 60 percent of the time, you can deduct 60 percent of its cost over a five-year period.

If you don't pass the 50-percent-use test, you have to depreciate the computer over the slower, 12-year schedule. In either case, if your computer is not used 100 percent for



People with good procedures for keeping track of business deductions pay fewer taxes than those who wait until the end of the year.

business, you must keep a log of usage to show the IRS how you did use it.

Company employees would have trouble taking this deduction since they would have to prove that their computer was for their employers' convenience and not their own. For employees using a computer at home for the benefit of their employer, CPA Tyler suggests that you have your employer either supply it to you or rent it from you. In the latter case, you would have rental equipment upon which you could claim income, depreciation, and maintenance.

5) First-Year Expensing. The IRS also lets you write off the cost of business equipment all at once by expensing, rather than by taking an annual depreciation. Expensing can be claimed only in the first year the asset is used in the business. If the asset is used partially for personal use, first-year expensing can be taken only if you pass the above "more than 50-percent-use" test.

"Limited expensing is one the few features in the new tax law that is really a big benefit to small-business owners," says CPA Brown. "It means you can write off the first \$10,000 of the cost of business assets. If you don't have the income, however, you can't take the deduction."

6) Simplified Employee Pension Plan (SEP). If you are self-employed, you can establish a pension plan with contributions that are deductible from net income (in the Adjustment section of Form 1040). You can deduct up to 13.0435 percent of your net income, or \$30,000, whichever is lower. If you don't have or don't plan to hire employees, the SEP is simpler to set up and administer than a Keogh retirement plan. Earnings are not taxable until you begin to draw benefits. A SEP for the tax year 1988 may be set up until

April 17, 1989 (April 15 falls on a Saturday). If you do have employees, says Golden of the IRS, a SEP must be available to all.

7) Keogh Self-Employed Retirement Plan. Another way for self-employed individuals to build a retirement fund and to shelter income is through Keogh plans. Keogh contributions are deductible from the net income of your business (in the Adjustment section of Form 1040), and the earnings are not taxable until you begin to draw benefits. Keogh plans are of two types: defined-contributions and defined-benefits. Defined-contribution plans allow you to pay a fixed percentage of your income each year into the plan. You can contribute up to 13.0435 percent of your net income (like the SEP) in a profit-sharing variation, or 20 percent of your income in money-purchase variation (annual contributions are required), if you are participating in a plan combining the two types of Keoghs. In either case, you can only contribute up to \$30,000 per year. The plan must be established in the calendar year to which it applies, but contributions can be made up until your tax due-date.

Defined-benefits Keogh plans require you to contribute a specified annual payment until you accumulate a pre-defined retirement amount based on actuarial tables for your life expectancy. However, the annual payout can't exceed the lesser of \$90,000 or the average of your three highest consecutive years' net profits. Defined-benefit plans, which are often more expensive to administer, can provide higher tax benefits than do defined-contribution plans.

You can open both a Keogh and a SEP, as long as your contributions to both combined don't exceed 13.0435 percent of your income or \$30,000.

8) Self-Employed Health Insurance. If you and your spouse are not eligible to participate in another employer's health plan, you may deduct up to 25 percent of the cost for health insurance. The 25 percent of the insurance cost is deductible in the Adjustment section of IRS form 1040, and the remaining 75 percent is grouped with itemized medical deductions on Schedule A. Health-insurance deductions, however, do not reduce the amount of income subject to self-employment tax.

9) Automobile Deductions. Cars require careful record-keeping habits, especially since the Tax Reform Act of 1986, which has restricted the amount of depreciation you may now take on the business use of your automobile. For cars used in a business, depreciation is now limited to \$2,560 for the first year in service, \$4,100 for the second, \$2,450 for the third, and \$1,475 thereafter.

An alternative to depreciation is a flat-expense deduction, which is a good way for corporate employees to recoup expenses. The IRS allows you a yearly deduction of 24 cents per mile for the first 15,000 miles of business use and 11 cents per mile after that. Although the same would apply to leasing a vehicle, most people deduct the percentage of leasing fees that relates to business use.

10) T & E Deductions. Both employed and

SELLING YOUR HOME SOON?

If you sell your house, you don't pay capital gains on the profits from the sale, provided you buy a more expensive home within two years. Conversely, if you make a profit, the IRS only allows you to defer capital gains for two years. The legal trap door here is that, when you set up a business in your home and start depreciating the home-office portion, you have to pay capital gains tax on the business-use portion of your home for the year of the sale. The IRS interprets selling a home office to be the same as selling commercial office space.

Small-business bookkeeper Dick Moore illustrated the potential drawback. "Suppose you buy a house for \$100,000, and the land portion was valued at \$40,000. Your total depreciation would be based on the value of the house, or \$60,000. Assuming your home office took up 20 percent of the home, you'd get depreciation on \$12,000. On a 31½ year depreciation (standard for commercial property), that's about \$400 a year. That's all the depreciation you would get." However, when you sell the house, you would have to pay capital gains taxes on 20 percent of the profits from the house, including the land.

In short, if you're thinking of selling in the near future, and if your home is likely to rise in value, it's probably not worth taking home-office deductions because you'll lose more than that in capital-gains payments.

self-employed tax filers can take advantage of travel and expense (T & E) deductions. In general, domestic travel and lodging remain fully deductible business expenses, but you can deduct only 80 percent of business meals and entertainment expenses. If staying overnight on a combined business and personal trip, "you can get 100 percent of lodging, if you can prove, by means of a log of your

time and places, that you spent more than 50 percent of your time for business," says licensed tax-preparer Moore. Different rules apply on deductions for foreign travel and expenses.

Every business receipt needs to show the place, the date, the amount, who you were with, and the business relationship or purpose.

11) Telephone Expenses. The IRS states that if you only have one phone in your house, you can't deduct the base rate for it, because you're certainly going to have one, whether or not you have a home business. You can, of course, deduct long-distance business calls. And if you have two phone lines, you can deduct the base rate for the one used exclusively for business.

★ Tax-Preparation Software

YOUR TAX SITUATION AT A GLANCE (MARIED FILING JOINT RETURN)

CATEGORIES:	FORM 1040	1988 ACTUAL	1989 ESTIMATED
INCOME	Line 23	122956.00	122956.00
ADJUSTMENTS	Line 39	2200.00	2200.00
ADJUSTED GROSS INCOME	Line 31	120756.00	120756.00
ITEMIZED DEDUCTIONS	Line 30	21572.00	21572.00
STANDARD DEDUCTION	Line 30	5000.00	5000.00
EXEMPTIONS (4)	Line 36	7800.00	8000.00
TAXABLE INCOME	Line 37	91299.00	91177.00
TAX (Rate Schedules)	Line 38	22655.17	22626.00
ADDITIONAL TAXES	Line 53	0.00	0.00
CREDITS	Line 47	0.00	0.00
OTHER TAXES	Line 46/52	0.00	0.00
TOTAL TAX	Line 53	22655.17	22626.00
PAYMENTS	Line 61	25400.00	25400.00
REFUND DUE YOU	Line 62	3733.83	3733.83
AMOUNT YOU OWE	Line 65	0.00	0.00

Enter total prescription medicines and drugs; and insulin
 (F1)Screen (F2)Notes (F3)Fin Calc (Esc)Exit (F10)Help (F11)Math (F12)Tax Glance

1989 Personal Tax Preparer

Form 1040 U.S. Individual Income Tax Return, 1988 Page 1 of 6

1. Wages, salaries, tips, etc. 25,000.00
 2. Dividend income 100.00
 3. Tax-exempt interest income 100.00
 4. Capital gain or loss 0.00
 5. Other income 0.00
 6. Total income 25,100.00
 7. Adjustments to income 0.00
 8. Taxable income 25,100.00
 9. Tax 5,020.00
 10. Credits 0.00
 11. Additional taxes 0.00
 12. Total tax 5,020.00
 13. Payments 0.00
 14. Refund due you 0.00
 15. Amount you owe 0.00

SEE T 12.14
 You may realize taxable income when you receive a refund of state or local taxes which you deducted in a prior year. A refund of federal income tax is not taxable. Press F7 to go to the worksheet.

Amount 0.00

F1:Help F2:Page F3:Save F5:F6:Print F7:Misc F9:Calc F10:Note Esc:Exit

J.K. Lasser's Your Income Tax 1989

TAXCUT 81d Sample 1988 Taxes

MAIN MENU

- F1 Personal Data
- F2 Income
- F3 Adjustments to Income
- F4 Itemized Deductions
- F5 Tax Preference Items
- F6 Credits
- F7 Additional & Other Taxes
- F8 Payments
- F9 Print Tax Return
- F10 Leave TaxCut

* Alt-F1 Utilities *

Exit the program if you wish to change Data Disksheets
 Press Esc for Help

Andrew Tobias's Tax Cut

Last year, tax-program publishers scrambled to incorporate tax-law changes into their software. This year, with only minor changes in the law, tax-program publishers have improved the performance of the software. For instance, more of the programs print out forms that the IRS accepts. More of them "interview," or prompt, the user for information and even suggest the proper forms to file. Beyond that, most tax-preparation programs have the most commonly used IRS forms and schedules, IRS instructions, and preparation tips available in a keystroke.

Consider the following points to help decide if you're ready to use a computer to prepare your tax returns:

1) Can you fill out tax returns manually?

If not, the tax preparation software might not be able to help you with your return. "You have to know the environment," says CPA John Tyler. "The issue in wills or tax returns generally is not whether or not the information you put in is accurate. It's whether or not you know what type of information you should put in."

If, however, you shy away from filling out your returns because you hate doing the computations, a tax-preparation program might be perfect for you. Performing accurate mathematical calculations is what tax programs do best.

2) Are your accounts already computerized?

It's much easier and faster to get at the required information if they are. Starting this year, several small-business accounting programs will output information in a format the tax-preparation programs can read directly.

3) How complex are your returns?

"A great deal depends upon the rest of your tax picture," says CPA Tyler. "The self-employment Schedule C is just one part of the

mosaic." If your returns are complex, if you have passive versus active income questions, if you are making more than \$100,000 per year and have rental losses, or if you have active tax shelters formed prior to the 1986 Tax Reform Act—you should consult an accountant, even if a tax program can handle the situation.

Ask DAN About Your Taxes

MANUFACTURER: Legal Knowledge Systems, Inc., P.O. Box 695, Drexel Hill, PA 19026, (800) 338-1866.

HARDWARE REQUIREMENTS: 512K IBM PC.

PRICE: \$90

PRICE FOR YEARLY UPDATE: \$45

COMMENTS: Menu-driven program leads you through individually tailored questions and finds deductions. Questions take account of responses that you have already given. Features include on-screen tax forms, automatic recalculation, pop-up scratch pad, and printing of IRS-acceptable forms (except the 1040). Can accommodate up to 50 partnerships and/or 10 businesses. **Forms:** 1040, 1040ES, 2106, 2119, 2210, 2441, 3903, 4562, 4684, 4797, 6251, 6252, 8582, 8606, 8615. **Schedules:** A, B, C, D, E, F, R, SE.

J.K. Lasser's Your Income Tax 1989

MANUFACTURER: Simon and Schuster Software, One Gulf + Western Plaza, New York, NY 10023, (212) 373-8880.

HARDWARE REQUIREMENTS: 384K IBM PC.

PRICE: \$75

PRICE FOR YEARLY UPDATE: \$45

COMMENTS: Produced in conjunction with

the J.K. Lasser Tax Institute, whose best-selling tax guide comes free with the program. Prints IRS-approved forms and schedules, including the 1040. Shares data among forms, has an on-screen calculator, and automatically transfers calculations from the worksheets to the forms. Includes an analysis section that tells you the best way to file and an interview system that indicates the forms to use. Forecasts 1989 tax liability. California and New York state tax forms are available separately for \$40 each. **Forms:** 1040, 1040ES, 2106, 2119, 2210, 2441, 3903, 4137, 4562, 4684, 4797, 4868, 5329, 6251, 6252, 8582, 8598, 8606, 8615. **Schedules:** 1, A, B, C, D, E, F, R, SE.

MacInTax and TaxView

MANUFACTURER: Softview, Inc., 4820 Adohr La., Suite F, Camarillo, CA 93010, (805) 388-2626.

HARDWARE REQUIREMENTS: **MacInTax**—512Ke Macintosh, two 800K drives recommended; **TaxView**—640K IBM PC with 80286 or 80386 microprocessor, 1.2MB floppy drive, hard drive, mouse, graphics adaptor card, DOS 3.0 and up. 768K Apple IIGS with two 800K floppy drives or 1.25MB RAM with one floppy drive.

PRICE: \$119

PRICE FOR YEARLY UPDATE: \$55

COMMENTS: Prints out forms, including the 1040, that you can send directly to the IRS. Displays replicas of forms on-screen that can be filled out line by line. Automatically performs all computations and checks for errors. Links together 70 worksheets, forms, and schedules. Imports ASCII files. State supplements for New York and California are available for \$65 each. **Forms:** 1040, 1040A,

1040ES, 1040EZ, 2106, 2119, 2210, 2441, 3903, 4562, 4562A, 4684, 4797, 4868, 4952, 6251, 6252, 8283, 8582, 8598, 8615. *Schedules:* 1, A, B, C, D, E, F, R, SE.

1989 Personal Tax Preparer

MANUFACTURER: Parsons Technology, 375 Collins Rd. N.E., Cedar Rapids, IA 52402, (319) 395-7300.

HARDWARE REQUIREMENTS: 256K IBM with two floppy drives; or one floppy drive and a hard-disk drive.

PRICE: \$29

PRICE FOR YEARLY UPDATE: \$19

COMMENTS: Includes a "what if" processor, which allows the user to change any information and see the effects upon the overall picture; context-sensitive help; pop-up calculator; and note pad. Prints out IRS-approved forms, including the 1040. Extra bonuses are a 1989 tax planner and menus that guide the user step-by-step through the program. *Forms:* 1040, 2106, 2441, 3903, 4562, 4684, 4797, 6251, 8582, 8598, 8606. *Schedules:* A, B, C, D, E, R, SE, 1.

Personal Tax Filer

MANUFACTURER: Disk-Count Software, Inc., 1751 W. County Rd. B, Suite 107, St. Paul, MN 55113, (612) 633-0730.

HARDWARE REQUIREMENTS: 256K IBM PC.

PRICE: \$20

PRICE FOR YEARLY UPDATE: \$10

COMMENTS: Program asks the taxpayer a series of questions, then automatically enters data onto forms and schedules. Prints out IRS-approved forms and schedules, except the 1040. Simple on-screen instructions lead user through program without having to consult the provided documentation. *Forms:* 1040, 2106, 2119, 2441, 3903, 8615 *Schedules:* A, B, C, D, E, SE.

Swiftax

MANUFACTURER: Timeworks, Inc., 444 Lake Cook Rd., Deerfield, IL 60015, (312) 948-9200.

HARDWARE REQUIREMENTS: 128K Apple, 512K IBM PC, C 64.

PRICE: \$50-\$70

PRICE FOR YEARLY UPDATE: \$25-\$35

COMMENTS: Can print data onto IRS-approved forms. Features include a built-in calculator and memo pad and context-sensitive help screens. Checks for filing options. *Forms:* 1040, 1040A, 1040EZ, 2106, 2441, 3903, 4562, 6251, 8615. *Schedules:* A, B, C, D, E, F, R, SE.

The Tax Advantage

MANUFACTURER: Double Eagle Software, Inc., 2340 Plaza Del Amo, Suite 215, Torrance, CA 90501, (213) 212-6611.

HARDWARE REQUIREMENTS: 48K Apple, 48K Atari, C 64/128, 256K IBM PC.

PRICE: \$50-\$60

PRICE FOR YEARLY UPDATE: \$36

COMMENTS: Easy-to-use package exchanges data among forms. Many forms and schedules can be printed onto IRS-approved forms. Accepts data from *The Home Accountant*. IBM and Atari versions also accept data from *Managing Your Money and Dollars and Sense*. *Forms:* 1040, 2106, 2441, 4562, 6251. *Schedules:* A, B, C, D, E, F, SE.

Tax Command

MANUFACTURER: Practical Programs, Inc., P.O. Box 93104, Milwaukee, WI 53203, (414) 272-7227.

HARDWARE REQUIREMENTS: 64K Apple, C 64, 256K IBM PC.

PRICE: \$50

PRICE FOR YEARLY UPDATE: \$25

COMMENTS: This menu-driven program will print directly onto IRS forms. Recalculates your tax owed or refund due each time you make a change. Commodore and Apple versions use only 40 columns. *Forms:* 1040, 1040A (IBM), 1040 EZ (IBM) 1040ES, 2106, 2119, 2441. *Schedules:* A, B, C, D, E, F, R, SE, 1 (IBM).

Tax Preparer

MANUFACTURER: HowardSoft, 1224 Prospect St., Suite 150, La Jolla, CA 92037, (619) 454-0121.

HARDWARE REQUIREMENTS: 64K Apple, 192K IBM PC.

PRICE: \$250 (Apple), \$295 (IBM)

PRICE FOR YEARLY UPDATE: \$75 (Apple), \$95 (IBM)

COMMENTS: Automatically creates many forms and schedules, including an IRS-approved 1040. Makes calculations speedily. Transfers all information to the corresponding forms and schedules. Automatically completes forms that should be filled out. State supplement for California is available for \$95 (Apple) and \$125 (IBM). *Forms:* 1040, 1040ES, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4562, 4797, 6251, 6252, 8582, 8598, 8615. *Schedules:* A, B, C, D, E, F, R, SE.

Tax Shop 1040

MANUFACTURER: Tax Shop (a division of MyQuest, Inc.), 7668 Municipal Dr., Orlando, FL 32819, (407) 351-0966.

HARDWARE REQUIREMENTS: 384K IBM PC, two drives.

PRICE: \$59

PRICE FOR YEARLY UPDATE: \$35.40

COMMENTS: This menu-driven program includes a Tax Return Manager that lets you delete, rename, and create backup files with-

out exiting to DOS. Includes context-sensitive help screens, along with a handy index of help categories. Program interviews the user to help select necessary forms and schedules. Allows user to override automatic calculations made by program. *Forms:* W-2, 1040, 1040ES, 2106, 2119, 2210, 2441, 3800, 3903, 4136, 4137, 4562, 4797, 4835, 4952, 4972, 6251, 6252, 8582, 8598, 8606, 8615 *Schedules:* A, B, C, D, E, F, R, SE.

Andrew Tobias's Tax Cut

MANUFACTURER: MECA Ventures, Inc. (in association with Best Programs, Inc.), 355 Riverside Ave., Westport, CT 06880, (203) 226-2400.

HARDWARE REQUIREMENTS: 256K IBM PC.

PRICE: \$80

PRICE FOR YEARLY UPDATE: \$50

COMMENTS: Formerly *PC TaxCut*, this newly released version from MECA instantly recalculates tax owed or refund due, along with the current tax bracket and taxable income of the taxpayer—every time a number changes. Includes context-sensitive help screens and an easy-to-understand user manual, both written by author Andrew Tobias, creator of MECA's *Managing Your Money*. Creates and prints out an IRS-approved 1040. *Forms:* 1040, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4562, 4797, 4952, 5695, 6251, 8582, 8598, 8615. *Schedules:* A, B, C, D, E, F, SE.

TurboTax Federal Personal Series

MANUFACTURER: ChipSoft; 5045 Shoreham Place, San Diego, CA 92122-3954, (619) 453-8722, (619) 453-4842.

HARDWARE REQUIREMENTS: 384K IBM PC/PS/2; two drives.

PRICE: \$75

PRICE FOR YEARLY UPDATE: \$37.50

COMMENTS: *TurboTax Personal* edition allows the user to prepare 1988 taxes, plan for 1989, and keep tax records up to date all year long. Other features include context-sensitive help; on-line IRS instructions; pop-up menus; cross-referencing of forms; and an Auto Interview that helps the user to select proper forms and schedules. Will print an IRS-approved 1040 on dot matrix or HP LaserJet. Supplements for 40* states and Washington, D.C., are available for \$40 each (\$25 for yearly update). ChipSoft also makes *TurboTax Professional Series* (\$395) for CPA's and professional tax preparers. *Forms:* 1040, 1040A, 1040ES, 2108, 2119, 2210, 2441, 3800, 3903, 4255, 4562, 4797, 4884, 4972, 6251, 6252, 8582, 8606, 8615. *Schedules:* A, B, C, D, E, E1, E2, F, R, SE, 1.

*State supplements not available include: Alaska, Connecticut, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming. ■

Stress Busters!

Here's How to Whip Your Hectic Schedule into Shape and Balance Work, Family, Exercise, and Personal Time

BY BARBARA STEIN

All work and no play. If the proverb fits, you're in good company.

When the National Opinion Research Center (NORC), a non-profit social-survey and research organization affiliated with the University of Chicago, asked its field managers to suggest agenda items for a staff conference, it was surprised to find stress-and-leisure management mentioned again and again. "Ordinarily we focus on the nitty-gritty of how to do your job," says Charlene Weiss, director of NORC's Office of Field Coordination and Management. "We scheduled sessions to deal with stress-related issues, but we only scratched the surface."

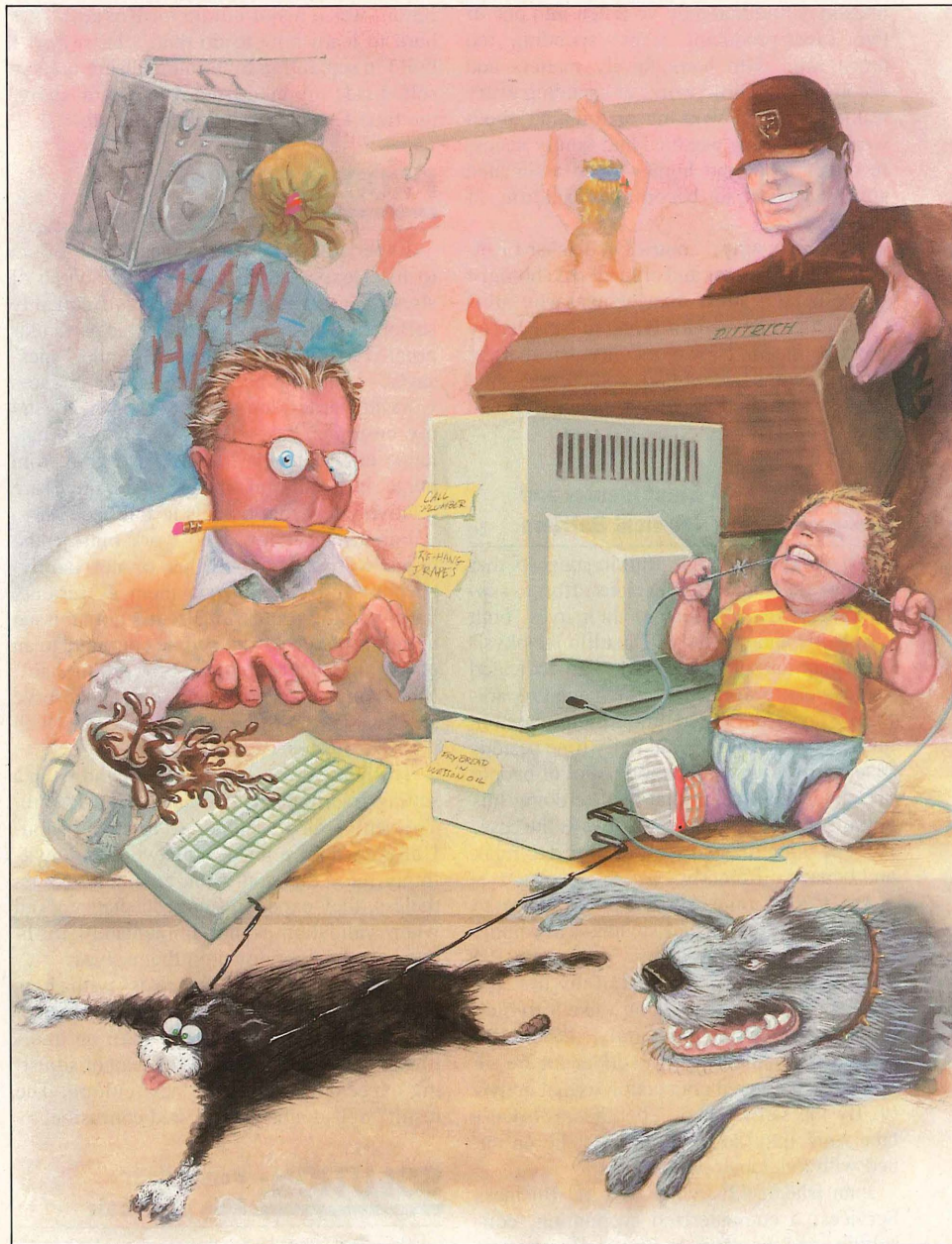
Why is NORC unique? Though headquarters are in Chicago, its 1,000 interviewers, field managers, and district managers are working in home offices spread out all over the country.

"Our people tend to be workaholics," said Weiss, who manages the field staff from her own home office in Fountain Hills, Arizona. "They're working too many hours and not taking enough leisure time. It's been a chronic problem. I keep telling them: 'It doesn't do you or me any good to work 100 hours a week; it's counterproductive.' But it's been a hard message to get across."

In a follow-up meeting, Weiss talked administrators into converting NORC's 18 senior field managers working on hourly contracts into full-time salaried employees, guaranteeing full-time work and benefits and converting overtime pay into set "straight-time" pay for extra work. "Our work is cyclical, and there are down times," she explained. "Managers worked for several months and were off for several months. Under the new system the field managers received raises of up to 20 percent, security, and the motivation to keep their hours down. We see it as a way to impose stress management."

Interestingly, Weiss sold the proposal to administrators by citing the company's commitment to get more computers into the field. "The computer allowed me to win the argument," said Weiss. Now managers can fill in off-time between big projects with computer-based tasks previously performed by central-office staff.

Upcoming NORC stress-and-leisure man-



agement meetings will focus on areas of concern to all home-based workers: separation of home and work, failed expectations, family interference, and overwork.

In an effort to get a handle on these problems, we asked stress-management experts and experienced home professionals to share their solutions. We think you'll find their comments both enlightening and useful.

PROBLEM: Separation Between Work and Home

The fact that home and office are only seconds apart is a benefit enjoyed by most home-office workers. But unfortunately, the lack of physical distance can also create problems since most homeworkers wear several hats simultaneously.

BARBARA STEIN is a contributing editor to HOME-OFFICE COMPUTING.

Disregard, for a moment, the disadvantages of commuting and consider its advantages. Not only does it put miles between home and office, but commuters have ample time to regroup and make the role shift from family member to worker and vice versa. Not so for homeworkers. Very often there's a conflict of interest when homeworkers attempt to make the shift.

Family-related issues can easily spill into the office. Similarly, business matters can flood the home. People who fail to draw the lines may find that they've fallen into one of two stress-producing traps: spending too much time with home/family matters and accomplishing little work; or spending every waking moment working or thinking about work, neglecting personal and family needs. In either case, the home—once associated with leisure—can become a cauldron of stress.

"The difficulty," notes Dr. Richard Rutkin, 49, a professor and clinical psychologist specializing in stress-management who splits his practice between his home in New Jersey and his office in New York City, "is that the home becomes identified with work. And work is centered around productivity and stress."

SOLUTION: Erect Mental and Physical Barriers

To avoid these traps, Rutkin suggests that homeworkers make a conscious effort to separate these two portions of their lives, both physically and mentally. The ultimate physical separation, of course, is a room dedicated exclusively to work. "But the mental separation," says Rutkin, "requires more planning and attention. Define your daily time periods in terms of your work habits. A lot of people are under the illusion that they're doing this automatically, but that's not always the case. By separating the two, you're forced to relax and behave differently."

Dr. Rutkin relies on his home office to help him flip the mental switch. "My home office is for business only," he says. "I don't confuse it with the rest of my life. It's not for relaxation, and I don't use it to tuck myself away from the family. When I'm there, I'm oriented toward work and there's a clear psychological connection to that activity. By the same token," he adds, "I don't take work into the living room or lie on the bed with a notepad on my knee."

Joan Blake, 43, owner of J.M. Business Services, a computerized accounting, consulting, and tax services firm in Dorchester, Massachusetts, begins her day by gearing up mentally. "After I take care of family matters, I shower and dress professionally, just as I would in the corporate environment," she says. "Then I make a list of daily goals and duties. By the time I go to my computer and close myself off from rest of the house, I'm in the mood for work. It's important to regulate the separation."

Having worked at home for 12 years, David Kovacs, 36, a television scriptwriter based in Chicago, has learned how to cope in a variety of environments. "I lived in apartments for years," he says, "and my office was always a room, but it was hard to get away physically. Now I'm living in a house, and my office is the entire second floor. When I knock off in the evening, I shut down the computer, leave the second floor, and pretend it's not there."

Still, the pretending part, the mental separation, was a major hurdle for Kovacs. "It's hard to learn how to do that," he says. "I build in separation by forcing leisure on myself. I ride my bike from 4 to 6 p.m. daily, the time I would ordinarily commute."

PROBLEM: Failed Expectations

Experts have known for years that failure to meet expectations is a leading source of stress. And home-based workers frequently suffer more than their share on this particular point. First are the nagging "should" messages: I should be earning more money; working harder, longer, better, or increasing my customer base. Beyond that is a challenge unique to the lifestyle: working from home is a cultural change, and there are relatively few role models to fall back on.

For instance, few who work outside the home worry about whether or not family, friends, and clients view them as serious, hard-working professionals. It's not an issue in the corporate world; people commute to an office, therefore they must be working hard. Moreover, colleagues and bosses observe and evaluate in-office performances, which provides further validation.

The home office, on the other hand, is in a setting traditionally associated with leisure. The setting alone can add to role confusion. Unfortunately, a lot of homeworkers unwittingly relay this confusion to others. Nonetheless, they expect instant acceptance. And when validation is not immediately forthcoming, they get down on themselves.

In part, the problem rests with how homeworkers measure their achievements. The natural instinct is to fall back on traditional (corporate) standards instead of adjusting expectations to fit the new culture. The result? Self-doubt, worry, and confusion.

SOLUTION: Define Your Role and Goals

The first step is to develop a clear role definition. The second is to examine your expectations. If there's a gap, it may be time to adjust your expectations or redefine your role.

How? "Make it part of your current reality that others will not treat you as they have in the past," says stress-management expert and psychologist John Newman, Ph.D., from his home office in Yardley, Pennsylva-

nia. "It's a matter of deciding how you want others to view you. Clarify the image you want for yourself as a person working from home. Home-based workers have more flexibility in creating images, but they also have the freedom to mess up."

"What it boils down to is knowing yourself. If your temperament and personality clash with the way you've structured your life, you'll suffer constant conflict. And if you chronically fail to meet your expectations, you'll go up the wall."

Rutkin says that some people do this subtly. "They can never do more than *almost* meet their very high expectations, and you wonder why they don't pare back to feel more comfortable," he says. "Others don't set sufficient expectations and go nowhere. These people are chronically depressed."

As the first NORC Senior Survey Director based at home, Weiss was suddenly faced with redefining her role and structuring her workday to fit with that of in-office colleagues. "My desk time is 7 a.m. to 4:30 p.m. so people can get to me easily," she says. "That helps me deal with the anxiety that comes with feeling that I'm not working enough. I wasn't as clear about this when I started, which I found was more stressful for me. That doesn't mean that I don't take time for the kids or run outside errands. I know how much time I owe the company, and I'm meeting my goals. It takes a while to develop a mind-set in which you know that you're accomplishing work in a reasonable length of time."

PROBLEM: Family Interference

Many people opt to work from home in order to better manage home and family. Nonetheless, family interference is a major problem for homeworkers, especially for women raising small children. There is a tendency to defer to the children's wishes, adjust the workday to fit the spouse's schedule, and assume extra household duties. But trying to be all things to all people doesn't work. And the inevitable outcome is increased stress.

SOLUTION: Clear Ground Rules

Negotiate a "working contract" with your spouse and family. Sit down and talk about the changes that result from working at home and don't forget to discuss household responsibilities.

Help your family members understand that your being home doesn't mean that you're available. "At the same time," advises Rutkin, "offer assurance that when it's family time, you'll be there for the family exclusively and not be drawn back into your work. Then follow through." Experienced homeworkers know that when their own behavior is consistent, children and mates un-

derstand the message more clearly.

Some homeworkers clarify the message by using an open-and-closed door policy. When the office door is closed, no interruptions are tolerated. An open door, on the other hand, is like a welcome mat.

Others, like Joan Blake, who has four children (ages 5 through 16), schedule family time into the workday. "Except for my little one, the kids come home at the same time and want to congregate in my office," she says. "So I devote time to them and then resume my work until 5 p.m. I also schedule my swim program during the workday so that, when everybody comes home, I'm more agreeable. If I took leisure time for myself in the evening, as my husband does, the kids would be alone too much."

Of course, all of this is harder to accomplish than it sounds, especially when children grow demanding. Dr. Newman suggests that the best approach is to clarify the ground rules up front. "Be specific about your expectations for noise, play activities, and who does what, where, when, and why. Communication is the key. Dare to care enough about yourself, your health, and your work to confront the issues. Then as time passes, renegotiate the issues continuously."

PROBLEM: Not Enough Leisure and Exercise

There's a tremendous sense of freedom in being able to carve up the 24-hour day into self-designed portions of time. The problem lies in the tendency of home-based workers to cut a large slice for work, a wedge for the family, and make due with crumbs for leisure time. Then when overwork takes its toll, they wonder what happened.

The crux of the problem is that homeworkers tend to be achievement-oriented workaholics. The thinking is: I have to go the extra mile to become successful, earn more, and establish a reputation. Telecommuters say: I have to prove myself to management and show them that I'm not fooling around. Inevitably, the slice allotted for work becomes enormous. Meals and family time are no longer work-free. Business calls are fielded at night and on weekends. At-desk lunches become the norm. And finally the family feels stranded—cut off from the love and attention it needs.

SOLUTION: Make Leisure a Business Appointment

Curb your tendency to overwork by remembering that relaxation dramatically impacts physical and mental health, which in turn has a positive effect upon your attitude and, therefore, your behavior with clients. Just as an evening without the kids works wonders for parents, time away from the keyboard offers you a chance to renew your energy and take a fresh look at nagging problems. The trick is learning how and

The problem lies in the tendency of home-based workers to cut a large slice of time for work, a wedge for the family, and make due with crumbs for leisure time.

when to force leisure upon yourself.

Leisure Appointments. Approaches that have worked for others include: scheduling leisure appointments into the workday, maintaining regular exercise programs, and taking control of work schedules. There are external controls in an outside workplace that force leisure upon workers—coffee and lunch breaks, for example. By developing internal structures at home, homeworkers can easily change the pace.

Michele Tamayo, 31, a management and organization development consultant living in Cardiff By The Sea, California, learned the hard way. "I suffered an illness from too much work my first year at home," she says. "So I was forced to learn how to balance. I realized that I could take tips from the way I manage my work by applying them to managing leisure time." Today, Tamayo "red inks" walks on the beach and Spanish and art classes into her business calendar, treating leisure time like a business appointment.

"I never miss a business appointment, so I shouldn't miss leisure time either," she says. "I review my 'To Do' list every morning, and that helps me keep the appointments." Jerry Christison, the Small Business Administration's assistant district director for Business Assistance in Helena, Montana, who is teaching home-business workshops throughout the state, suggests that homeworkers schedule family and recreation appointments first. "Let your business plan take up everything else because it will," he says. "But first, join social clubs and get involved with whatever is important to you personally. That'll save your sanity."

Exercise to stay physically and mentally fit. Dr. Newman arms his clients with "weapons" and shows them how to build a "stress-management arsenal." Says Newman, "It's an overall game plan for managing stress in your job, family, and personal life. I help people develop lifelong habits to bridge the gap between knowing what to do and doing it. People actually speed up by slowing down."

Dr. Newman's "daily weapons" include: pauses for deep breathing exercises, during which you relax by saying, "I can handle

this." He also recommends sustained aerobic exercise at least four times weekly, and daily stretching exercises to get rid of emotional energy. Finally, he suggests resting your mind to clear it of stress-producing thoughts. "Negative thoughts," says Newman, "cause stress. When that happens, take a break, push back in your chair, close your eyes, focus on a relaxing mental picture, and breathe deeply. It breaks the stress cycle."

Control your work schedule. Tamayo and Kovacs have learned to reduce their keyboard time by only accepting work that fits their time frames. Says Tamayo: "I learned how to say no. I'm assertive with those who are putting demands on my time, whether it's clients or family members. If a client asks for a workshop in February and that puts me in a bind, I push for March. I can provide a better service if I'm not rushed and my time is theirs exclusively. My clients don't balk. The initial complaints last only a few minutes. Kovacs has also learned how to turn down work. "In the beginning there's a tendency to accept everything that comes along," he says, "but you can't take time off unless you're judicious about accepting work that's given to you. So when I'm busy, I turn down work or pass it to friends. I don't hesitate to say no. I don't want the stress, and I know the client will call again."

NORC'S SOLUTION

More than a year after NORC's restructuring and the conference on stress-and-leisure management, NORC personnel are finding that the system works. According to Weiss, follow-up meetings have been particularly rewarding: "One of the most fruitful results of the larger sessions was that experienced people had the opportunity to share their coping methods with new managers. For new personnel it was an 'Aha' experience. They kept saying things like, 'You mean you really take breaks?' or 'You don't work from morning until night?' Now, a lot of people are going out for lunch, making themselves go for walks, and resetting their work schedules. It has been a satisfying experience for everyone."

In the smaller meetings hosted by divisional field managers, individuals focused on job satisfaction and further development of specific job skills. "People felt they could minimize stress by being more competent in their jobs," says Weiss. "They identified stresses related to being unsure of tasks and knowing when to ask for help. In one session, which we videotaped and shared throughout the company, a management consultant gave a workshop on effective communication. It helped people eliminate the stress of misinformation and showed them how to give honest feedback, pick up on hidden agendas, and deal with feelings that result from poor communication. It's wonderful! By reducing stress, many people are becoming more creative and productive." ■

Entrepreneur Looks For Laws—And Finds Success

*Edie Martinez Uses Her Law School Experience to Start a
Business Serving Boston-based Lawyers*

BY BARBARA STEIN

Edie Martinez is always calling lawyers. Funny thing is, she's not the client; the attorneys are. Martinez operates Search & Research, a legal research service catering to Boston's legal and real-estate professionals. "Prior to this, I was getting my B.A. and M.A., attending law school, and working part-time as a librarian while my four children were growing up," says Martinez. "In the back of my mind, I kept thinking about working for myself, but it wasn't until my children were grown that I had the confidence to try it."

Martinez attended law school until 1981, took a job as a paralegal, and received paralegal certification from Bentley College in 1983. "I never wanted to be a litigator," she says. "I like the research and writing end much more. It's funny, some of my former classmates are now clients, and I see them struggling with their practices and personal lives. Me? I love my work and lifestyle!"

BANKING ON TECHNOLOGY

Once she had made the decision to start Search & Research, Martinez wasted no time getting her business off the ground. With savings from the sale of her house, she rented an apartment, converted a spare bedroom into an office, and placed an advertisement in Boston's *Lawyer's Weekly*. Knowing that she could do all of her legal research via modem, she equipped her office with an IBM-compatible computer, Canon copier, Panasonic printer, Hayes-compatible modem, Lotus 1-2-3, *Symphony*, and a subscription to LEXIS, an on-line service for lawyers (Mead Data Central, Dayton, Ohio).

"I didn't even know what I was buying," says Martinez, who had never used a computer. "But two of my sons are programmers and were a big help. In fact, when I was learning, I'd call them and say, 'Oh no, what happened?' and they'd say, 'Do this, Mom.' I must say I'm spoiled having them as consultants. I did everything at once. I didn't

have time to ask if I was doing it right, and I can't say I knew what I was doing."

RESEARCHING ON-LINE

Despite a lack of computer experience, Martinez knew that on-line research would form the core of her business. By logging onto LEXIS, she could clear her home of piles and piles of law books, eliminate the daily subway commute to Boston College Law Library, and serve clients more quickly and efficiently. Still, she resisted using the service.

"I kept thinking, 'I have this service, and I've got to do something with it.' But I was accustomed to researching in libraries," she explains. "Then my first customer phoned and wanted research right away, so I was forced to go on-line. I called the company's 800 number and the customer-service representative talked me through the procedures. I still call now and then when I need assistance. In the end, I save time, money, and space."

NO JOB TOO SMALL OR TOO LATE

On a typical workday, Martinez is out of bed and on-line by 5 a.m. Describing herself as a morning person, she revels in the lull before the storm. "In this business, everything is an emergency," she says. "It's not unusual for me to receive several last-minute calls for title exams due to escrow closings. That doesn't bother me because I can go on-line early and research them all simultaneously. My other emergency calls come from attorneys asking for pleadings and briefs before presenting their cases in court. These, of course, are more involved and can take up to two weeks. I research the cases, document the statutes, then write the reports and print and deliver them. A recent brief ran 50 pages, and, as usual, the computer part was the fast part; the writing takes longer. My work seems to come in waves, but I glory in providing last-minute searches."

Ironically, convincing clients that eleventh-hour emergencies are her forte has been difficult for Martinez. She's more than will-

ing to handle the crises, but clients tend to sabotage themselves.

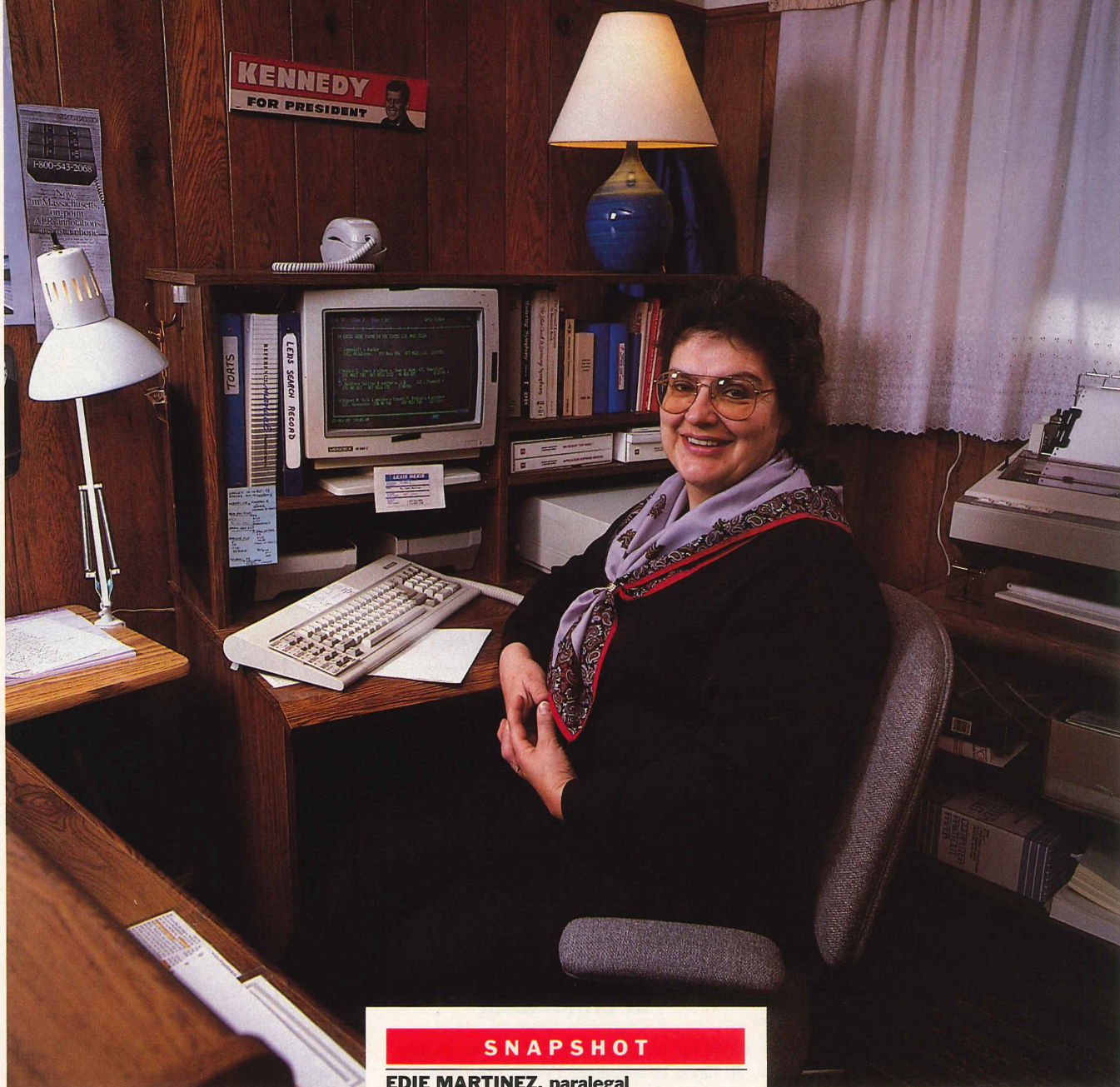
"It's a strange problem," she says. "As a rule, when clients call for the first time, they're full of apologies for calling at the last minute and for requesting a small search. I assure them that it's what I do best and that with small jobs, I can get back to them faster. To me, that's the beauty of the business. But some clients are not convinced. Recently, in an effort to get around the problem, I added 'No job too small' to my advertisements. I hope it will help. I'm happy to accept smaller jobs knowing that they'll eventually lead to larger ones. In fact, that's exactly what's happening. And I'm still working with one of my first clients."

Like most new business owners, Martinez has learned to take the hurdles in stride, adjusting as she goes along. "I was my own problem in the beginning," she laughs. "At first I gave away a lot of free information. Attorneys would see my advertisement, call me, and ask how to locate specific books or documents. I'd tell them where in the library to look. Of course, I wasn't being paid for handing out all this information. Then it occurred to me that that's what I was in business for. It took me a couple of months; I learned the hard way."

SETTING A PRICE SCALE

She also learned to set competitive rates, complete searches with minimal client input, and establish a three-hour minimum for searches. "In general," she says, "attorneys don't want to be bothered during the research. They don't like to research—that's why they hire me. I document everything, write it up, and present it to them when it's complete. As for short searches, I send the information and may never even meet the client."

Search & Research customers are billed \$30 an hour plus on-line fees. Martinez, who says that rates vary from state to state, established her rates by informally surveying local attorneys. She asks for a retainer up front, which is deposited into a special account and



SNAPSHOT

EDIE MARTINEZ, paralegal

RESIDENCE: Watertown, Massachusetts

BUSINESS: Search & Research, offering attorneys and real-estate professionals legal and nonlegal searches, full title searches, pleadings, briefs, and more.

EQUIPMENT: Vendex Headstart System Turbo (XT compatible), Panasonic KX-P3131 printer, Practical Peripheral Modem 2400 (Hayes compatible), Canon PC-5L Personal Copier.

SOFTWARE: Symphony, Lotus 1-2-3, and HOT (Headstart Software). Subscribes to LEXIS.

RX FOR SUCCESS: "Patience," says Martinez. "You might prefer the large jobs, but small jobs can lead to repeat business and larger contracts."

remains untouched until the work has been completed. Because she's savvy about the law and accustomed to dealing with attorneys, she insists that all work and fees be spelled out in a written contract.

"Contracts *do* help. Some clients don't want to pay me until they've been paid by their clients, which can be a problem. To these people I say, 'I'm working for you, not your client.'"

PLANNING FOR THE FUTURE

There's more than enough work in Boston to keep her busy, so Martinez has no plans to expand outside the area. In fact, to date she has only one competitor, and that company is new to the industry. Nonetheless, she hasn't ruled out future expansion nor has she cut back marketing. Last holiday season, for example, she stepped up her marketing campaign by sending personalized calendars and

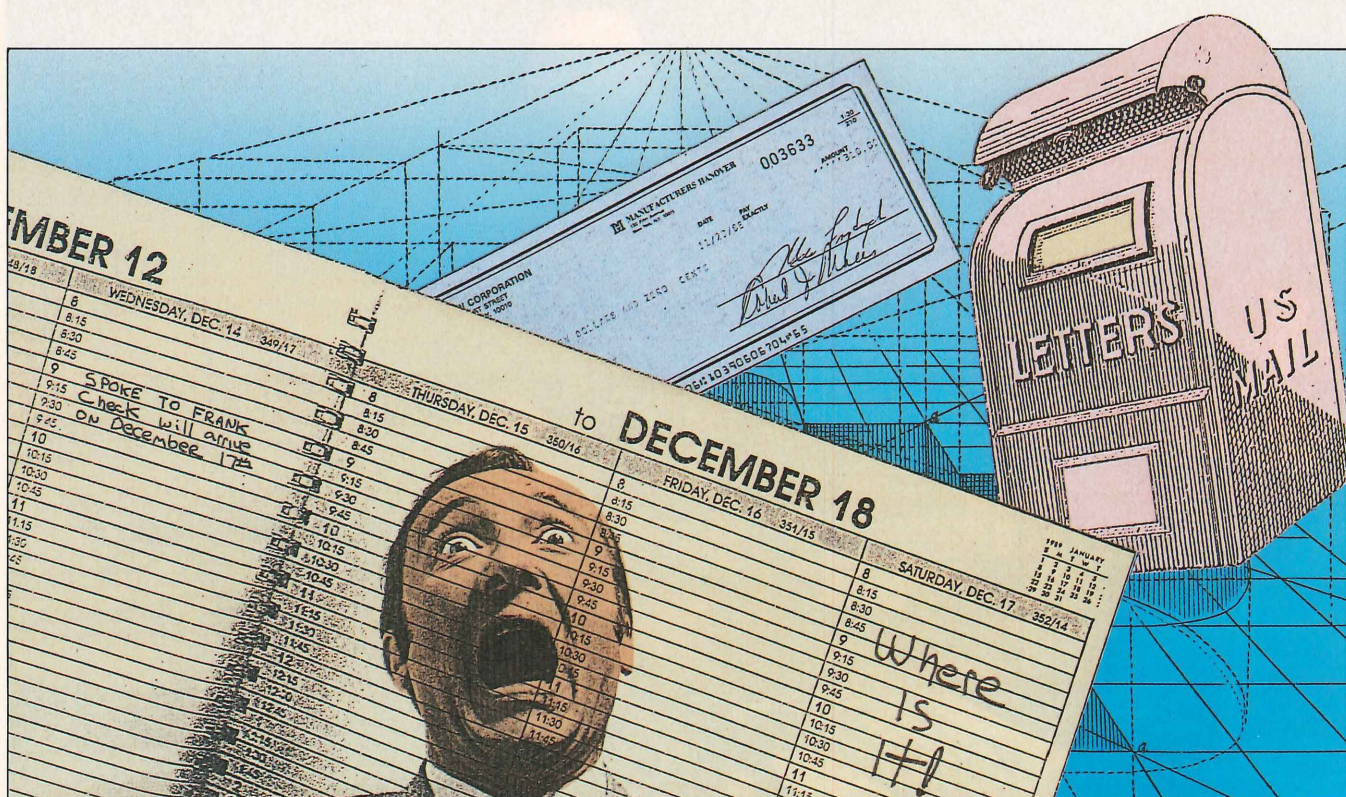
holiday greeting cards to regular and potential clients.

"Those were good marketing tools," says Martinez, "and targeted to the right market. When I started, I purchased one year's worth of ads in *Boston Woman*, a local magazine. Not only was this a drain on my finances, but

it didn't help turn up any clients. Now I'm marketing directly to attorneys. I regularly run a small ad in *Lawyer's Weekly* that really brings in the majority of my clients."

Like many other home-based professionals, she is planning to buy a fax machine or a fax modem. "More and more clients ask for my fax number," she says. "Attorneys have pleadings that are already in court and want to fax them to me so I can add research. When I get my fax machine, I'll be able to complete the research and fax it back. To help me stay flexible, I'm also looking into buying a laptop."

Summing up the past year, Martinez says that the best thing about being self-employed is that she no longer worries about retirement. "I can continue working as long as I'm in one piece," she laughs. "I can plan my expansion and project into the future at will. It gives me more to look forward to." ■



The Check Is in the Mail

How to Get the Money Owed You When It's Due

BY LYNIE ARDEN

Do you have trouble collecting money that's due you, being aggressive, and hounding down clients who are delinquent with payments? Do you find yourself checking the mailbox only to find it empty? Keeping up with payments both past due and *before* they're due is a time- and energy-consuming task. It may seem that tracking payments warrants lower priority than churning out work. But an organized system of controlling payments keeps your business rolling and, among self-employed business owners, the lack of a system is a common problem. What follows are some guidelines to ensure that the check really is in the mail, and on time.

ESTABLISH A PAYMENT SCHEDULE

First decide on a payment schedule for clients. Choose one that is consistent with common practice in your industry and conve-

nient for you. It could be 10 days, 15 days, 30 days, or whatever. Make sure your customers know your payment schedule.

Here's one way to remind clients that payment is due soon: Call them at least a week before an account is due to thank them for the order and to ask if everything is satisfactory. You want to make sure that you've done your part and that payment won't be held up because of a problem about which you were unaware. You can then ask if the bill was received and draw attention to the due date. Be diligent and review your receivables once a week, keeping a watchful eye on due dates.

OFFER A DISCOUNT FOR EARLY PAYMENT

The second decision to make in establishing your payment policy is whether to offer a discount for early payment and, if so, how much. Again, look to your own industry for guidelines. If a five percent discount for payment within 30 days is the rule, don't offer anything less. Be aware that credit terms are considered a competitive tool with-

in some industries and that knowledgeable customers shop around. Being small and flexible, you might consider offering a bigger discount than your competitors.

Impose a penalty for late payment. Set your penalty higher than bank interest rates for loans. Because people respond to rewards much better than they do to punishment, a combination of the two may be effective. In either case, express the consequences in dollars and cents, not percentage points. For example, on a \$250 invoice, focus attention on the discount by writing, "Pay this invoice by the 15th of this month, and you keep \$25 as your cash discount." Repeat the message on a note to further boost early returns. Similarly, if an account is becoming dangerously overdue, send a note saying, "Avoid adding \$50 to your bill. Pay before the 30th of this month."

ACCELERATE YOUR BILLING SCHEDULE

Tighten your billing schedule as much as possible. Present an invoice upon delivery of

LYNIE ARDEN is a contributing editor to HOME-OFFICE COMPUTING.

your product or service. Don't wait until the first of the month to get around to it. The sooner you get started, the sooner you'll be paid.

Push your discount period as far forward as you can and still be competitive. If your current discount cutoff is set for 30 days, would your customers balk at 15 days? Could you change 15 days to 10 days?

Likewise the entire collection process could be compressed. A total collection cycle of 60 days could be squeezed down to 45.

Don't delay action. Reminders should start within five days of an invoice's due (maturity) date. That provides plenty of time for checks that really are in the mail to arrive.

October through December is a common cash-flow bottleneck. Clean up sluggish accounts with a year-end clearance sale. Offer an additional cash discount for any account that pays by December 15.

FOLLOW THESE FOUR STEPS TO BILL COLLECTION

Communication with clients is the key to collecting bills. Generally there are four steps: before the bill is due, the reminder and after the bill is due, the appeal, the demand, and the threat. Each can be handled through writing, telephoning, or a combination of both. Space the steps about two weeks apart with the entire process spanning no more than 60 days.

- **Give a Gentle Needling.** Most accounts need only a discreet hint to keep payments coming on schedule. This reminder could be a friendly little note, a quick phone call, or a copy of the invoice with a mention of the discount for prompt payment.

- **Make an Appeal.** The appeal is a formal, yet polite, request for payment. Again, you can get this message across in a variety of ways. A letter should be personalized and contain all the pertinent information. Form letters aren't nearly as effective. To really attract attention, send a telegram. Then follow up with a polite but firm phone call.

- **Make a Demand.** When the situation is serious, it's time to send the demand. Your language should be less than friendly. Go beyond polite and be firm. State the problem clearly, include your expectations in terms of time and response and, for the first time, leave an opening for negotiations in case there is a real problem with the financial health of the customer. Do not threaten in any way at this time. Create a sense of urgency by using certified mail and requesting a return receipt, which gives you proof of delivery in case you need that for legal reasons at a later date. Once again, a phone call to pin down a commitment can be effective.

- **Issue a Threat.** If you still haven't gotten any action, it's time to take off the gloves. The pay-up-or-else letter is your final step before resorting to third-party measures. You must let your customer know that the time for being reasonable has been exhausted and that there will be no more coaxing. Explain the

consequences if no payment is forthcoming. Be careful, you must not violate the laws that protect the consumer: Do not use excessive harassment, threaten with physical harm, threaten with disclosure (telling others about the problem in an effort to cause business failure), or commit libel. And don't threaten to take the matter to court if you know it's not worth your while.

WHEN CHECKS BOUNCE

Fortunately, bad checks are more a nuisance than a real problem, but collecting can be tricky. When a check bounces, notify your customer of the problem either by



Communication with clients is the key to collecting bills. There are four steps: the reminder, the appeal, the demand, and the threat.

phone or letter. Many banks will charge you for depositing a check that was backed by insufficient funds. Depending on your bank's policy, you may be able to deposit the same check one more time, and it may then clear. If the check fails to clear a second time, ask your customer for a money order and retain the bad check until you receive it.

PRACTICE PREVENTIVE MEDICINE

Before you grant credit to any new customer, find out if they are indeed credit-worthy. Check on the financial health of a large organization with The Dun & Bradstreet Corporation ([800] 223-0141; you must be a subscriber). For information about individuals or very small companies, it is better to call TRW Credit Data ([714] 991-5100). The National Association of Credit Management (NACM) ([301] 740-5560) reports the payment experiences of other creditors within your own industry. If your industry isn't one that NACM covers, check with your colleagues to find an organization that does. Obtain bank references. You can have your bank verify them for you, or you can use standard forms available from NACM to verify them yourself.

Don't rely on financial statements or credit references from your new customer. Everyone has good references they can use, and they're not likely to tell you about the bad

ones. Financial statements don't tell you what you need to know—whether or not you can expect prompt payment.

If you are still not sure of a customer, start by demanding partial payment in advance or offer credit on a limited order-to-order basis.

In the case of large contracts that may require you to risk an up-front capital outlay, you might want to consider some kind of insurance. Performance bonds are issued by insurance companies; payment bonds are issued by bonding companies and are designed primarily for the protection of subcontractors; and business credit insurance is offered on commercial accounts (not consumer) by the American Credit Indemnity Company ([800] 624-4969).

WHEN ALL ELSE FAILS

Go to a third party for help as a last resort on unresolved accounts. Before heading for the lawyer's office, consider some cheaper and faster alternatives.

Arbitration is offered by most industry associations. Having a referee who is knowledgeable in your field can be an advantage. The Better Business Bureau ([212] 533-0483) and the American Arbitration Association ([212] 484-4000) also offer arbitration services in most areas.

Depending on your state laws, you may be able to collect up to \$5,000 in small claims court. It is fast and cheap since lawyers are not usually used. To win the case, you must have complete, verifiable documentation to back up your claim. If your opponent doesn't show up, you win by default. The real trick in small claims court is not winning, but collecting. It is up to you, not the court, to collect. For a nominal fee, you can have a sheriff or marshal attach wages, bank accounts, or rental income or extract funds from real and personal property.

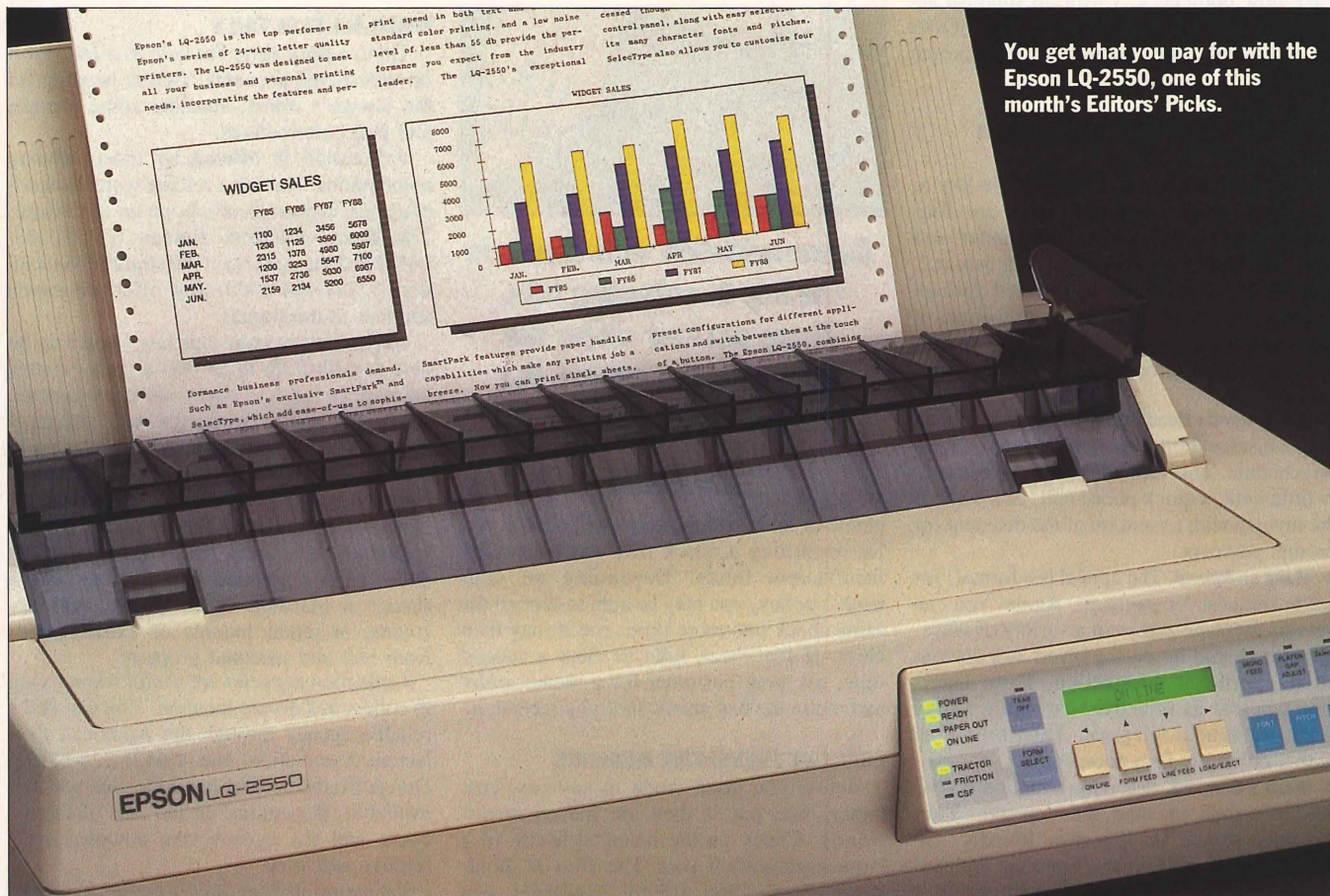
Collection agencies are useful when trying to collect in a distant location. You can find a reliable agency through the American Collectors Association, Inc. ([612] 926-6547). Dun & Bradstreet also has collection services available. Depending on the size of the account and the agency, the amount you'll retrieve will vary.

Litigation is your final avenue. To make sure it's not a dead end, ask yourself a few important questions before pursuing it. Is the account collectible? Is it worth the time and effort? Will the attorney's fees leave any money for you when it's all over? You can find a good collection attorney through a collection agency or Dun & Bradstreet Receivable Management Services.

For the most part, getting paid for your work should go like clockwork. It is a matter of setting up a workable system and following through diligently. Being paid slowly or not at all is a death warrant for most home-business owners. The answer is constant vigilance and swift action to keep small cash-flow troubles from becoming insurmountable. ■

24-Pin Dot-Matrix Printers

These Near-Letter-Quality Printers Are Good for Reports, Business Correspondence, Multipart Forms, and Envelopes



You get what you pay for with the Epson LQ-2550, one of this month's Editors' Picks.

A Question-and-Answer Guide, Reviews, and Chart

BY CHARLES BERMANT

Before the age of the laser printer, there were dot-matrix printers and letter-quality printers. The dot-matrix variety always took a bad rap. They were the most practical and economical printers, but in a world used to typewriters, dot-matrix output just didn't meet typewriter/letter-quality printer standards.

CHARLES BERMANT, a freelance computer writer, lives in Oregon.

That has changed. Today's 24-pin dot-matrix printer delivers output nearly as good as that of the letter-quality slowpokes of old, while maintaining the speed and graphics capabilities that have always distinguished dot-matrix printers. The slow and expensive daisy-wheel printers of yesteryear are going or gone, replaced by the laser and 24-pin printers. And though the old 9-pin dot-matrix printers are still around, albeit faster and less expensive than before, they are not suitable

for business correspondence. For many people, the real buying decision comes down to the choice between a 24-pin dot-matrix and a laser printer.

Laser printers provide better output and more fonts, and in some cases are virtually indistinguishable from professional typesetting machines. Dot-matrix printers cannot compete with the laser's quality, speed (eight pages per minute), or quietness. Still, not everyone needs a laser—or wants to spend

the \$2,000-plus to buy one. Today's dot-matrix printers, like yesterday's, are practical, versatile, and economical. Unlike yesterday's, their print quality is now acceptable for many business and graphics applications.

Q: What are 24-pin dot-matrix printers?

A: Dot-matrix printers make up images, both text and graphics, by printing dots on paper. The 24-pin dot-matrix printers offer a clearer output than the older 9-pin dot-matrix printers because they have more pins in the print head. In the resulting image the dots more closely approximate a continuous line.

Most 24-pin dot-matrix printers have a high-speed draft mode in which the dots are not as tight and the output is not as dark as in the slower near-letter-quality mode.

Q: For what tasks are 24-pin dot-matrix printers best suited?

A: Because 24-pin dot-matrix printers are rugged and fast, they are good for heavy text production. Because their output is sharp and clear, they are also acceptable for business correspondence. In addition, since 24-pin

Today's dot-matrix printers, like yesterday's, are practical, versatile, and economical. Unlike yesterday's, their print quality is now acceptable for many business and graphics applications.

printers have more paper-handling flexibility than most laser printers and can handle multi-part forms and envelopes, they are good for preparing mass mailings and labels as well as for general office tasks. All 24-pin dot-matrix printers can also print graphics and, with a range of fonts, can be used for presentations or fliers. However, since the large type sizes look "dotty," especially when com-

pared to laser output, 24-pin dot-matrix printers are not suited for professional desktop publishing.

Q: How many fonts are available on 24-pin printers?

A: The number of fonts (such as Courier or Times Roman) is potentially unlimited, confined only to what manufacturers decide to offer. Most 24-pin printers come with three built-in fonts, and each of these is available in different type sizes (usually 10-, 12-, and 15-point). In addition, most manufacturers offer font cards or cartridges (about \$75 per card), which you merely plug into a slot to add more fonts.

Q: How fast are 24-pin printers?

A: The fastest 24-pin printers produce draft copy at over 400 characters per second, which is about three pages per minute. Any speed around 200 cps is acceptable. In the high-quality mode, which is called letter-quality by some manufacturers and near-letter-quality by others, the top printers produce copy at over 100 cps. These rates apply only

BUYER'S GUIDE TO 24-PIN DOT-MATRIX PRINTERS

What follows is a guide to 22 popular 24-pin dot-matrix printers. All are manufactured by reputable companies and should be readily available nationwide.

Company/Model	Suggested Retail Price	Speed (cps)		Maximum Paper Width (inches)	Tractor (Push, Pull, or Both)	Printer Buffer (bytes)	Built-in Fonts	Font Card/ Cart. Slot	Interface		Emulation ²	Warranty (months)
		Draft (pica)	NLQ ¹ (pica)						Std	Opt		
ALPS ALQ-P224e	\$875	200	64	11	Both	7K	2	1	P	S (\$55)	Epson LQ Series	12
Apple ImageWriter LQ ³	\$1,399	250	90	15	Both	5K	4	None	S		Apple ImageWriter	3
Brother M-1724L	\$949	200	72	16.5	Push	16K	1	1	P & S		Diablo, Epson LQ-1000, IBM PP	12
Citizen Tribute 124	\$599	200	66	10	Both	24K	4	1	P & S		Diablo, Qume, Toshiba	12
C. Itoh ProWriter C-715A Reliant	\$1,499	250	83	16	Both	32K	1	1	P & S		Epson LQ-1000/1500	12
C. Itoh ProWriter C-815 Supra	\$2,195	333	135	16	Both	42K	3	1	P & S		IBM PP, Toshiba	12
Epson LQ-500	\$529	150	50	8.5	Both	8K	3	1	P	S (\$59)	Epson LQ Series	12
Epson LQ-850	\$849	220	73	10.1	Push	6K	3	2	P & S		Epson LQ Series	12
Epson LQ-2550	\$1,499	333	111	16	Push	8K	8	None	P & S		Epson LQ Series	12
Hewlett-Packard RuggedWriter	\$1,695	400	200	14.95	Push	2K	1	1	P & S		Epson LQ Series, HP	12
IBM Quickwriter	\$1,699	330	110	16.54	Pull	8K	3	1	P & S		IBM PP/QP	12
IBM Proprinter X24	\$799	200	67	16.5	Push	6K	4	None	P	S (\$103)	IBM GP/PP	12
NEC Pinwriter 2200	\$569	140	55	10	Both	8K	6	1	P	S (\$129)	Epson LQ Series, NEC	12
NEC Pinwriter 5200	\$799	220	75	10	Both	80K	7	2	P	S (\$129)	Epson LQ Series, NEC	12
Okidata Microline 390	\$699	225	75	10	Push	23K	3	1	P	S (\$89)	Epson LQ Series, IBM PP	12
Panasonic KX-P1124	\$530	160	53	11.7	Both	6K	6	None	P	S (\$93)	Epson LQ-2500, IBM PP	24
Seikosha SL-130AI	\$999	180	60	16	Push	16K	6	None	P	S (\$349)	Epson LQ-1000, IBM GP	24
Star Micronics NX-2400	\$529	142	47	8.5	Push	7K	4	1	P		Epson LQ-800, IBM PP	12
Tandy DMP 2120	\$1,599	240	80	16.5	Push	0K	4	None	P		IBM GP	3
Toshiba ExpressWriter 311	\$589	150	50	10	Pull	16K	3	1	P		Epson LQ Series, IBM PP, Qume, Toshiba	12
Toshiba P321SL	\$799	180	60	10	Both	32K	3	2	P & S		IBM GP/PP, Qume, Toshiba	12
Toshiba P351SX	\$1,599	300	100	15	Both	32K	4	2	P & S		IBM GP/PP, Qume, Toshiba	12

KEYS: Cart. = Cartridge; cps = characters per second; FX = Epson FX series; HP = Hewlett-Packard Printer Control Language Level III; IBM GP = IBM Graphicsprinter; IBM PP = IBM Proprinter series; IBM QP = IBM Quietwriter series; NEC = NEC Pinwriter; NLQ = near letter quality; Opt = Optional; P = Parallel; pica = 10 characters per inch; S = Serial; Std = Standard; Toshiba = Toshiba P351; ¹LQ or NLQ; ²Optional emulation may be available; ³27-pin dot-matrix printer.

MANUFACTURERS

ALPS America, Inc., (800) 828-2577 or (800) 257-7872 (CA); Apple Computer, Inc., (408) 996-1010; Brother International Corp., (201) 981-0300; Citizen America Corp. (213) 453-0514; C. Itoh Electronics, Inc., (800) 227-0315; Epson America, Inc., (800) 922-8911; Hewlett-Packard Company, (206) 253-3095; IBM Corp., (800) 426-2468; NEC Information Systems, Inc., (508) 264-8000; Okidata, Inc., (800) 654-3282; Panasonic Industrial Company, (800) 742-8086; Seikosha America, Inc., (800) 422-7768; Star Micronics America, Inc., (212) 986-6770; Tandy Corp., (817) 390-3300; Toshiba America, Inc., Information Systems Division, (714) 583-3000.

to straight text and not to graphics printing, which is slower.

Since slower printers cost less, you can save money by forsaking speed. And keep in mind that print speed for your actual text (as opposed to a laboratory test pattern) runs roughly 20 percent slower than the manufacturer's advertised claims.

Q: How much do 24-pin printers cost?

A: The least expensive units sell for less than \$500 through discount or mail-order outlets, and a heavy-duty high-speed unit can cost over \$1,000.

Q: What extras do the more expensive printers offer?

A: Extra money in a printer should get you more speed, better quality output, sometimes a wider carriage, and sometimes a quieter model.

Be aware that buying a printer is different than buying a PC. In the MS-DOS market, for instance, a \$1,000 computer may work as well as a \$2,000 computer. Moreover, you can easily upgrade a computer by adding better video, more disk storage, memory, and interfaces. A printer isn't so alterable. Carriage width, speed, print quality, and noise level are unchangeable; as far as these characteristics go, once you buy, there is no

looking back. You can, of course, add print buffers, font cards, and single-sheet feeders to many printers, but you can't improve many aspects of performance.

Q: Do any 24-pin dot-matrix printers work with a Macintosh?

A: Your best bet is Apple's own ImageWriter LQ, a 27-pin dot-matrix printer. Some 24-pin dot-matrix printers can be adapted with varying results to work with the Macintosh's non-standard serial port. But they have not been designed to work with the Macintosh, and they are not necessarily supported by Macintosh software. However, two new devices, the Grappler LS and Grappler LQ (Orange Micro, Inc., (800) 223-8029), allow you to connect a serial or parallel 24-pin dot-matrix printer to your Macintosh.

Q: Is color an option on 24-pin printers?

A: Yes, and it's one major feature that laser printers don't offer (unless you spend \$20,000–\$30,000). Several 24-pin printer vendors offer color options. The color module (which costs about \$150–\$200 extra) can be used to produce color overhead transparencies, color charts and graphs, or just give a text document a little more spice. Many manufacturers estimate that less than 5 percent of

buyers want, need, or use color in the 24-pin environment, partly because it's difficult to reproduce color printouts. But expectations are that increased availability of color copiers will drive up the demand for color printers.

Q: How much noise do 24-pin printers make?

A: They make more noise than lasers, but less than the dot-matrix printers of two or three years ago. And whereas noise has always given dot-matrix printers a black eye, the noise level of today's models can best be termed noticeable, but not objectionable. Some printers have a button that activates a Quiet mode that cuts the noise level in half. Quiet mode also cuts the speed, but chances are, if you need to cut the noise to do something else, then you can wait a while longer for the printout.

Q: With so many factors to consider, how do I make a final buying decision?

A: The most subjective, and to many the most important, consideration is print quality. Make sure that you are satisfied with the output. It must be not only readable but also able to favorably represent you and your business—now and in the future. Beyond that, buy more performance features than you need today since the basic performance can't be improved with add-ons.



Here are reviews of six widely available 24-pin dot-matrix printers. For more specifications on these printers—as well as descriptions of about two dozen others—refer to the accompanying chart.

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.

★ EDITORS' PICK ★

Epson LQ-2550

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$1,499

The Epson LQ-2550 proves the old saying, you-get-what-you-pay-for, along with its homespun corollary: If you pay enough, you

can buy everything but love. With a \$1,499 list price, this unit costs more than twice what most people expect to pay for a dot-matrix printer. Nonetheless, this solid, powerful, and versatile printer has enough impressive features to justify its cost.

Price isn't the only reason that the LQ-2550 can't be directly positioned against the other printers reviewed here. It's a wide-carriage unit, with the ability to print on paper up to 16-inches wide. As for size, it is a 44-pound behemoth. Needless to say, it won't fit in the little printer bays on the standard-issue computer desk.

A clearly labeled and easily understood LCD control panel facilitates everything from switching between On- and Off-Line to loading macros. The macro capability automatically loads different typesets and functions. There are three pre-set specifications for letter-quality printing in Roman font

(suitable for business correspondence), for draft printing, and for a small-type spreadsheet style. In addition, you can create your own typeset specifications for special uses and load them at will.

Error messages are single, non-intrusive beeps that don't sound like the smoke detector just went off. By holding down the font knob on the front panel and toggling through the options, you can select and change fonts, eight of which are built in. Depending on typestyle and type-quality selection, speed ranges between 111 and a blistering 500 characters per second.

The Epson's paper-handling methods also show signs of ingenuity. Three paper sources can be selected through the front panel. Loading a continuous form through the sprockets is simple. The Epson's useful tear-off feature pushes the sheet out to be torn off, then pulls the remaining paper back so nothing



ing is wasted. Paper may be cheap, but there's no reason to throw it away unused.

If and when your needs include color output, an optional color ribbon snaps right in. As for noise, the top shields cut most, although not all, of the chatter. This printer does not have a Quiet button.

The Epson LQ-2550 is more printer than most users probably need and could by itself exceed the cost of the rest of your system. Still, if you use a printer intensively, it is a wise investment. —CHARLES BERMANT

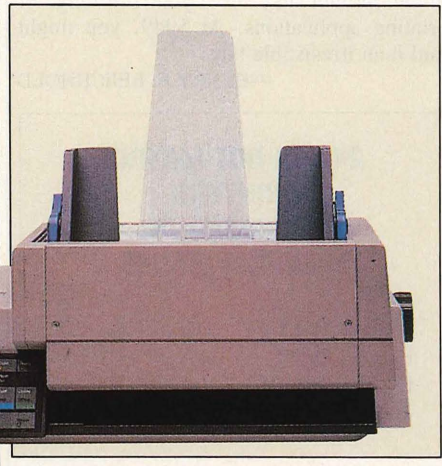
IBM Proprinter X24

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$839

The Proprinter series, which IBM itself manufactures, replaced an IBM-labeled Epson product some years ago and since then has earned a reputation for reliability and ruggedness. Despite some drawbacks, the Proprinter X24 is a competent, built-to-last machine. But there's nothing here to write home about.

The X24 is a smooth-looking, space-saving unit (16-by-13-by-5 inches) that weighs only 17 pounds. The controls are out front, easy to see and use. DIP-switch adjustments are made by removing a plastic door on the



machine's rear right. DIP-switch adjustments are necessary to print a slashed zero (ø), use a different paper size, or add a sheet feeder.

The X24 is noisy, and pressing the Quiet button doesn't help much. More miscellaneous noise comes from a series of annoying beeps that signal various features' status. When the paper runs out, you get a message similar to the *Close Encounters* movie theme.

Paper handling could be improved. Single sheets go through the front of the printer only one sheet at a time. Once the paper is lined up along an adjustable guide, it can be pulled easily through the printer with the paper advance knob. But unfortunately, since the gap between the printhead and the platen cannot be adjusted, the Proprinter cannot print envelopes, unlike all other printers reviewed here.

The Proprinter has a paper load assist that aligns the sprockets and lines up the paper for continuous feed use. The first time you use the Proprinter, you'll need to read the manual to know how to load the paper. I had to sacrifice several sheets of paper to this educational process.

As for the bottom line—print quality—the Proprinter is certainly acceptable but doesn't hold a candle to that of IBM's own Selectric typewriter. All in all, the Proprinter is at the lower end of acceptable, and many users will ask for more advanced features. This is not an unreasonable request, as other printer manufacturers have shown that loading paper doesn't have to be painful.

—CHARLES BERMANT

NEC Pinwriter P2200

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$569

The NEC Pinwriter P2200 implements some good ideas and is economical in size and price. But the machine's shortcomings are probably too much for the heavy user to tolerate. The Pinwriter P2200 boasts three print modes (high-speed draft, standard draft, and letter quality) with respective speeds of 170, 140, and 55 characters per second—not outstanding in this day and age. Print quality is decent, but does not match the clarity of a high-quality electric typewriter.

Single-sheet and envelope feed are accomplished one at a time through a door on the front; continuous-form paper is loaded from the back. Once the sprockets are lined up, paper load is automatic. When the continuous-form paper is loaded, you can print on an envelope or single sheet loaded from the front without taking the other paper out. A



single-sheet feeder that holds more than one sheet at a time can be added.

Nonetheless, the Pinwriter seems ergonomically half-baked. Font cartridges are plugged into the back next to the parallel port, a drawback for anyone who plans to use different fonts with any regularity. The printer is obscenely noisy, and its Quiet mode is not noticeably quieter than its regular mode. The noise can be decreased by closing the acrylic covers and by making sure that the front sheet-feed door is closed, but this printer is still not something you'd want running in the background during a phone conversation.

One vendor I spoke to characterized the current 24-pin printer market as offering no intrinsically bad printers—some fit users' needs better than others. The Pinwriter isn't a bad printer as such, it's just weak in spots. With this in mind, it seems that the Pinwriter would be a good choice for irregular correspondence, but not for heavy text production.

—CHARLES BERMANT

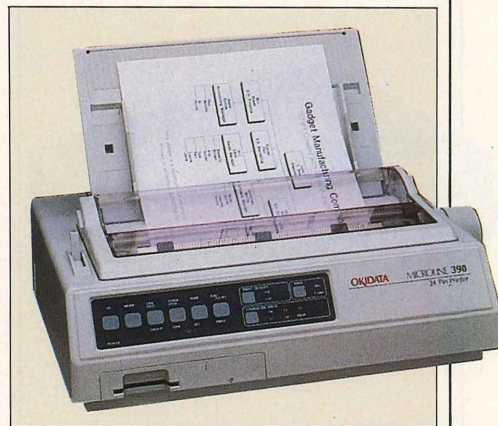
★ EDITORS' PICK ★

Okidata Microline 390

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$699

Since printers aren't as easily upgraded as PCs, it makes sense to buy with an eye to the future, keeping in mind the features you



might need. In the 24-pin market, the Oki-data Microline 390 is a printer that will perform competitively for several years to come.

The Microline comes close to a true plug-and-play machine and can be set up without much thinking. I was able to install the paper without referring to the manual. (Paper can also easily be fed through the printer from the bottom.)

Chances are, if you've ever used any printer, you'll be able to figure out in short order most of what makes the Microline click, though some of the controls could be more clearly explained. For instance, there is no selection indicator that uses the nearly universal On-Line designation.

At almost 16 inches wide and 14 inches deep, the Microline fits conveniently on any desktop. With an impressive 225/75 cps rating for its draft and letter-quality modes, print quality is above average. The Microline spits out a variety of fonts and type sizes with speed and panache. Extra fonts load through a convenient front slot. And unlike some competitors' Quiet modes, this Quiet control decreases the noise level perceptibly.

While some retailers might need to lead you through a demo to convince you of the need for a 24-pin printer, the Microline's very appearance offers an inducement to buy. Almost instantly, it becomes apparent that the solid and durable Microline is top-notch.

—CHARLES BERMANT

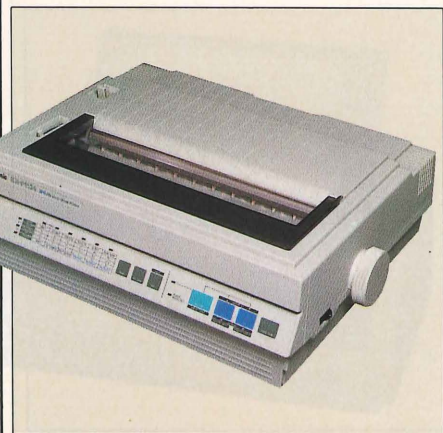
Panasonic KX-P1124

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$530

Panasonic's new KX-P1124 is one of the least expensive 24-pin printers, but it has the features and performance level of a more expensive machine.

Setting up the printer is a bit tricky. A



control panel on the front gives you access to all the features (there are no DIP switches inside the printer). However, it took me a while to set all the controls, and I had to refer to the manual frequently. A quick reference card includes tables for most of the control functions, but without an LCD readout the control panel was overwhelming at first.

Both print quality and print speed are very good but not exceptional. Six typefaces are included, and all can be selected through the control panel. The continuous-form paper-feed mechanism is outstanding. The paper can be fed in three ways—from the back, bottom, or front. The P-Cut function advances paper to the tear-off position and then returns it to the normal printing position so that you don't waste paper between printouts.

Single-sheet feeding is simple, but it's not as easy as my Epson LQ-850. It will take a few tries to get used to changing from continuous-feed to single-feed. The noise level during printing is acceptable, though louder than average. The foam inside the printer doesn't seem to buffer sound very well. You won't want to be on the phone or have a meeting while this printer is working.

Despite a few ergonomic problems, the Panasonic KX-P1124 is a winner, offering good value. Were it not for the above-average noise level and the difficulty of changing to single-sheet paper, the printer would deserve a four-star rating.

—STEVEN C.M. CHEN

Toshiba P321SLC

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$949

There's no denying that laser printers have set the standard with respect to print quality, printing speed, and noise level. But there's no such thing as a do-everything printer. For example, laser printers can neither print continuous nor multipart (carbon interleaved) forms. And, unless you're willing to spend a small fortune, they can't print in color. Yet the Toshiba 3-in-One can do all of this with a print quality that's as good as you're likely to get from any 24-pin dot-matrix printer.

Besides its full-color printing and high-speed operation (180 cps draft and 60 cps letter-quality), the Toshiba prints up to 132 columns wide (on 8.5-inch-wide paper). Two slots are provided in the front of the printer for font cards (\$79 each). Access to each font is through the front-panel LCD configuration menu.

It takes just a few minutes to get the printer up and running. Just install a few items (platen knob, dust cover, and ribbon), load



paper, and connect the data cable and power cord. Configuration through the front-panel menu system is easy enough. For example, to install the IBM Proprinter emulation, you step through the main menu until EMULTN: IBM PRO appears in the window. Pressing Select sets the printer for the desired emulation. The next time you turn the printer on, however, you'll have to do it again.

But to really take advantage of what the 3-in-One can do, you'll have to spend considerable time with the manual. Printing in color, for example, requires reconfiguring your software if it has a color-printing option or inserting printer codes (for example, Escape) into your text at the appropriate points. This is a tedious process. However, the manual is extensive and generally clear, and if you're willing to spend some time experimenting with the numerous configurations and printer commands, you'll eventually end up with a printing system that can accomplish anything from letter-quality text to full-color, high-resolution graphs.

Print quality is superb. Even the draft print looks better than that produced by most 24-pin dot-matrix printers. High-resolution graphics come close to laser-printer quality. The color lacks brilliance, and large areas of color like the bars in bar graphs clearly reveal their dot-matrix origin. Nevertheless, a color graph printed in the middle of crisp black text stands out most impressively. The Toshiba 3-in-One printer may serve your full range of printing applications. At \$949, you might find it an irresistible buy.

—HENRY F. BEECHHOLD

24-PIN DOT-MATRIX PRINTERS REVIEWED IN PREVIOUS ISSUES

Brother M-1724L	March 1988
Epson LQ-500	November 1988
Epson LQ-850	April 1988
Toshiba P351SX	June 1988

HOME-OFFICE SURVEY

Win a Fax for Your Facts

HOME-OFFICE COMPUTING always strives to meet the needs of people who work from home. To do this, we need your help. Please take the time to answer these simple questions and return the survey to HOME-OFFICE COMPUTING Survey, 730 Broadway, New York, NY 10003, by March 15, 1989. One winner, selected at random, will receive a Toshiba 3300 fax machine, and 10 others will receive a copy of *Andrew Tobias's Managing Your Money* by MECA. Results will be published in the September 1989 issue.

Note: Individual survey responses will be kept in strict confidence.

TELL US ABOUT YOUR WORK AT HOME

1. Please check all that apply:
 - ☐ I run a home-based business full-time.
 - ☐ I run a home-based business part-time.
 - ☐ I bring work home after hours.
 - ☐ I work from home at least one day a week.
 - ☐ I don't do work at home. (Skip to question 27.)
2. What is your business or profession? _____
3. How many hours per week do you work at home? _____
4. How long have you been working from home? _____
5. Why did you decide to work from home? (Check all that apply.)
 - ☐ For convenience.
 - ☐ To spend more time with my family.
 - ☐ I'm more productive at home.
 - ☐ To avoid the commute.
 - ☐ My corporate office is too noisy.
 - ☐ To get more work done.
 - ☐ I wanted a more flexible schedule.
 - ☐ I wanted to start a business.
 - ☐ To be my own boss.
 - ☐ To save money on overhead.
 - ☐ To make more money.
 - ☐ I'm disabled.
 - ☐ I'm retired.
 - ☐ I was fired.
 - ☐ To care for a child or elderly person.
 - ☐ Other; please specify. _____
6. Which of the above was the most important reason for working from home? _____
7. What do you feel are the advantages of working from home? (Check all that apply.)
 - ☐ I'm more productive.
 - ☐ It's quieter.
 - ☐ I can run my own show.
 - ☐ People envy my lifestyle or see it as a position of status.
 - ☐ I work less.
 - ☐ My work and my personal goals are similar.
 - ☐ I spend more time with my family, hobbies, etc.
 - ☐ No commute.
 - ☐ I eat healthier food.
 - ☐ I make more money.
 - ☐ I spend less money on overhead.
 - ☐ I can wear what I want.
 - ☐ Others; please specify. _____
8. Which of the above is the most outstanding advantage of working from home? _____

9. What do you feel are the drawbacks of working from home? (Check all that apply.)
 - ☐ I feel isolated from others.
 - ☐ I can't stay out of the refrigerator.
 - ☐ People don't take my work seriously.
 - ☐ There's a stigma attached to working from home.
 - ☐ I work too much.
 - ☐ I can't separate my work from my personal life.
 - ☐ I don't have the support services I need.
 - ☐ I have to design my own benefits package.
 - ☐ I'm distracted by family, friends, pets, chores, etc.
 - ☐ It's hard to find new clients.
 - ☐ Others; please specify. _____
 10. Which of the above is the most troublesome aspect of working from home? _____
 11. What are your first, second, and third most troublesome tasks?
 - ☐ Replacing or repairing faulty equipment.
 - ☐ Learning and applying software.
 - ☐ Software buying decisions.
 - ☐ Hardware buying decisions.
 - ☐ Preparing taxes.
 - ☐ Bookkeeping and accounting.
 - ☐ Marketing and advertising.
 - ☐ Managing my time.
 - ☐ Getting the capital I need.
 - ☐ Other; please specify. _____
 12. Do you know other people who work from home?
 - ☐ Yes; how many? _____
 - ☐ No
 13. Would you recommend working from home to others?
 - ☐ Yes
 - ☐ No
- ### TELL US ABOUT YOUR HOME-BASED BUSINESS
- (If you don't run a full- or part-time business, skip to question 27.)
14. Did you leave a corporate job to start your own business?
 - ☐ Yes
 - ☐ No (If no, skip to question 19.)
 15. If yes, is your home-based business in the same field as your previous corporate job? ☐ Yes ☐ No
 16. Do you still work with or for your previous company?
 - ☐ Yes
 - ☐ No
 17. Do you think you'll ever go back to a corporate office environment? ☐ Yes ☐ No
 18. Circle the appropriate choice:
 - Are you making **more** or **less** money at home?
 - Are you **more** or **less** satisfied with your work?
 - Are you **more** or **less** satisfied with your lifestyle?
 - Do you work **more** or **fewer** hours?
 - Do you take **more** or **less** vacation time?
 - Do you spend **more** or **less** money on clothes?
 - Do you spend **more** or **less** on work-related transportation?
 - Do you exercise **more** or **less**?
 - Do you socialize **more** or **less**?
 - Are you involved **more** or **less** with community activities?
 - Are you involved **more** or **less** with family activities?
 19. Do you want to move out of the home? ☐ Yes ☐ No

20. Do you want your business to:
___ get smaller? ___ stay the same size? ___ grow?

21. How many employees do you have? _____

22. If you have employees, do they work:
___ in your home office?
___ in their own home office?
___ in an office outside of the home?
___ in the field?

23. Is your business turning a profit? ___ Yes ___ No

24. How much does your business gross per year?
___ \$0-\$5,000 ___ \$101,000-\$500,000
___ \$6,000-\$20,000 ___ \$501,000-\$1 million
___ \$21,000-\$50,000 ___ over \$1 million
___ \$51,000-\$100,000

25. What kinds of financial assistance has your business required? (Check all that apply.)
___ Commercial bank loans.
___ Personal bank loans.
___ Small Business Administration loans.
___ Loans from family or friends.
___ Venture capital funds.
___ Grants.
___ None.
___ Other; please specify. _____

26. Do you feel financially secure? ___ Yes ___ No

TELL US ABOUT YOUR SYSTEM

27. How many computers do you have in your home? _____

28. How many are used for business purposes? _____

29. Please specify brands and models: _____

30. Do other family members use the computer(s)?
___ Yes ___ No

31. I own	I plan to buy
___ fax machine	___
___ laser printer	___
___ modem	___
___ copier	___
___ multiline phone	___
___ answering machine	___
___ cordless phone	___
___ cellular phone	___

32. What piece of equipment do you plan to buy next?

33. How much is your home-office equipment worth? \$ _____

34. How much money do you plan to spend on equipment in the next year? \$ _____

35. How much money have you spent on software? \$ _____

36. How much do you plan to spend on software in the next year? \$ _____

37. What types of software do you use regularly in your home?
___ accounting ___ general purpose graphics
___ business graphics ___ integrated

___ communications	___ investment
___ database	___ personal finance
___ desk accessory	___ programming language
___ desktop publishing	___ spreadsheet
___ educational	___ word processor
___ entertainment	___ other; please specify.

38. When you have a question about equipment and/or software, where do you turn first for help?
___ A magazine; which one? _____
___ A retail store; which one? _____
___ A consultant.
___ The manufacturer.
___ A business associate.
___ An association or club; which one? _____
___ A friend or relative.
___ Other; please specify. _____

39. Do you regularly communicate on-line with others?
___ Yes ___ No

TELL US ABOUT YOUR HOME-OFFICE LAYOUT

40. Where is your home office located?
___ Spare room ___ Closet
___ Basement ___ Den or living room
___ Kitchen ___ Dining room
___ Garage ___ Corner of a bedroom
___ Attic ___ Other; please specify. _____

41. Does your office have a door or partition? ___ Yes ___ No

42. Do you own office furniture? ___ Yes ___ No

43. How much money have you spent on your home-office set-up? \$ _____

44. How much money do you spend per month on office accessories such as stationery? \$ _____

45. Do you feel you have enough space for your office?
___ Yes ___ No

TELL US ABOUT YOURSELF

46. Name: _____
Address: _____

Phone: _____

Age: _____

Sex: ___ Male ___ Female

Marital Status: ___ Married ___ Single

47. Do you have children?
___ Yes; how many? ___ ___ No

48. How often do you read HOME-OFFICE COMPUTING?
___ Subscribe ___ Buy Frequently ___ Buy occasionally
___ First time I've seen it

49. What computer and/or business magazines do you buy or subscribe to? _____

50. What topics would you like to see addressed in HOME-OFFICE COMPUTING? _____

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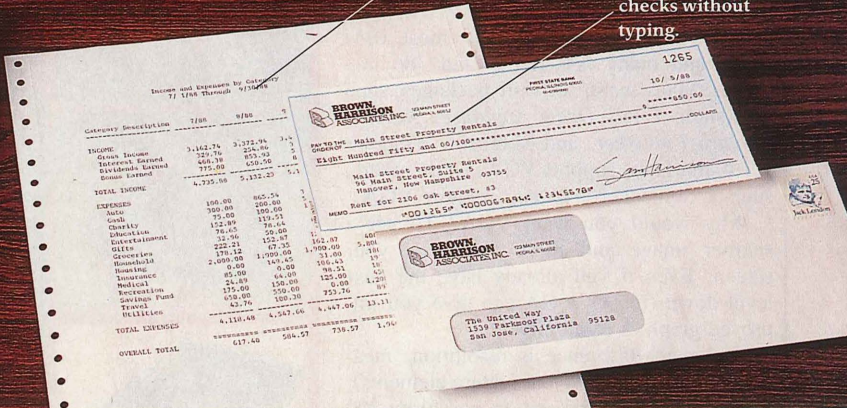
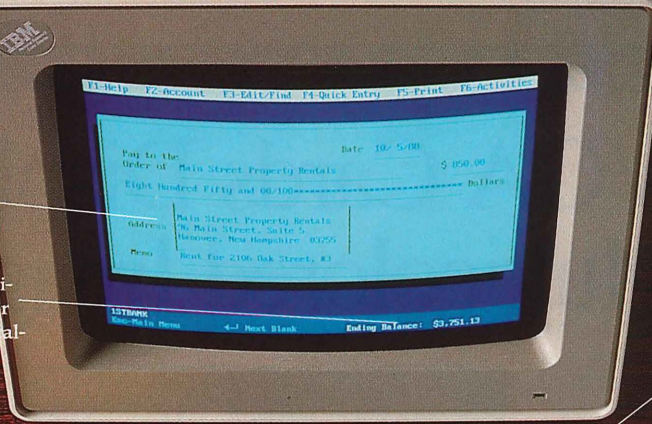
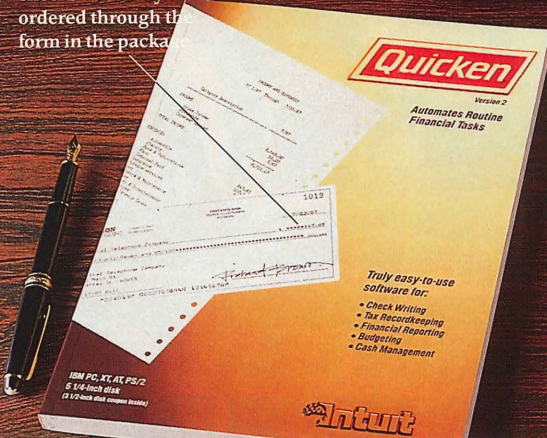
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Hardware Compatibility—DeskMate Version: Tandy 1000 SL with 384K RAM or IBM PC, AT, PS/2, and compatible computers with 512K RAM and DOS 2.0 or higher. All printers. All monitors (monochrome monitors require a Hercules or compatible graphics card).
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These VGA Cards Display Vivid Multicolored Images

BY HENRY F. BEECHHOLD

The current video "standard" for IBM and compatible computers is termed VGA (video graphics array). It's built into most IBM PS/2s, and many AT clones and 386 machines. Many major software packages, such as Ashton-Tate's *Draw Applause*, Xerox's *Ventura Publisher*, and Microsoft *Windows* v.1.4 and later, support VGA, while others, such as Spinnaker's *Splash!*, require VGA.

Why would you want VGA? To get a sharper image and more colors on your screen. Even if you already have the next level down (EGA), VGA can give you improved graphics capability.

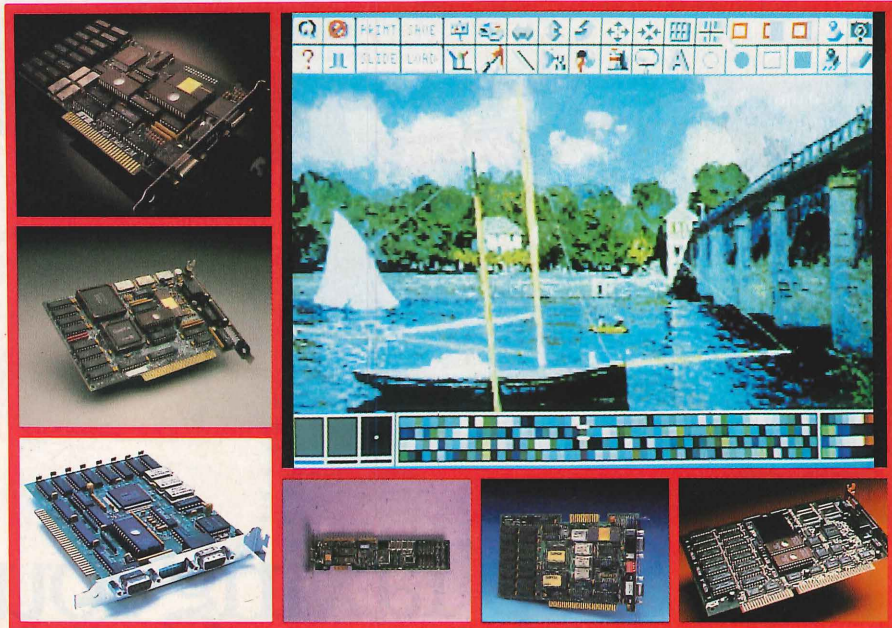
The main difference is resolution, measured in pixels ("dots" or picture elements). The highest CGA resolution is 640-by-200 with two colors; EGA's highest is 640-by-350, four-color; and VGA's is 640-by-480, 16-color. Between EGA and VGA is "Super EGA," and, as you might expect, above VGA is "Super VGA," with resolutions beyond 640-by-480—especially useful for CAD (Computer Aided Design), desktop publishing, and other graphics-intensive software. All popular VGA cards (including the ones reviewed here) are "downward compatible"; that is, they will also work with software configured for EGA or CGA.

VGA SHOPPING TIPS

Five things to consider when shopping for a VGA card are resolution, monitor connector type, speed, bus capability, and software drivers.

The resolution potential of the various VGA boards on the market ranges from the VGA minimum of 640-by-480 to numbers like 800-by-600 and 1,024-by-768. Remember, to take full advantage of these higher VGA resolutions you should have a monitor that can support them. Neither a CGA nor an EGA type of monitor can handle VGA signals. You must buy either a VGA monitor, like the Zenith ZCM-1490 (reviewed in our *June 1988 issue*), or a multifrequency monitor, like the NEC MultiSync II (reviewed in our *October 1988 issue*) or the Princeton Graphic Systems Ultrasync (reviewed in our *August 1988 issue*).

VGA monitors come with a 15-pin connector for analog output. CGA and EGA monitors use a 9-pin connector for digital output. The benefit of analog output over digital is that more colors can be displayed



The six VGA cards reviewed—(counterclockwise from top left) STB VGA Extra/EM, Quadram QuadVGA, Tecmar VGA, Video Seven FastWrite VGA, Genoa SuperVGA HiRes-10, and AST-VGA Plus—surround a graphic that was designed using Spinnaker's *Splash!*

on the screen. Some VGA cards also come with a standard 9-pin (digital) RGB connector for use with a variety of monitors. Choose a board with both types of connectors—you may want to use a different monitor from time to time.

Although all six VGA cards we tested will run on PC compatibles (8-bit), the AST-VGA Plus card and the Video Seven FastWrite VGA card have PC/AT expansion connectors (16-bit). This means that on a PC/AT compatible they can operate almost twice as fast as the other cards (see the *Performance Rating in the accompanying chart*). For example, screen activity (scrolling and rewrit-

ing) is accelerated. When two cards have the same connector type, there can be a significant difference in speed, as shown in the chart.

Special software drivers are needed for certain programs (*GEM*, *Windows*, and *Ventura Publisher*, for example) to take full advantage of the higher resolution VGA modes. All VGA cards come with software drivers for various programs, but make sure the card you plan to buy comes with the drivers you need. Some programs themselves come with drivers. This means that they can run with all VGA cards. VGA cards also come with setup, diagnostic, and miscellaneous utilities. The difference among cards is in the number of utilities supplied and the number of software drivers included.

To do their tricks, VGA cards need to come with at least 256K of video memory, and some are upgradeable to 512K. The higher the resolution, the more memory you'll need. And the more memory you have, the greater the number of simultaneously displayed colors.

If you compare all of the VGA boards running at a given resolution on the same monitor, you probably won't see much difference among them. To a great extent, color perception is subjective, and what looks good to one person may look wishy-washy or

REVIEWED IN THIS ISSUE

Computer:

Compaq SLT/286 Model 20

Video Cards:

AST-VGA Plus
Genoa SuperVGA HiRes-10
Quadram QuadVGA
STB VGA Extra/EM
Tecmar VGA
Video Seven FastWrite VGA

Fax:

Cobra Print Phone Portable PP-110
Toshiba 3700

Cordless Telephone:

Southwestern Bell Freedom Phone FF-1700

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Make no mistake. Almost all books and courses on "programming" teach you only the final 5% of the total programming process—namely, how to code in a specific language... information of little value if you don't know how to reach the point in the programming process when you are ready to code.

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off-tint to another. The final decision should come down to the old cost-benefit ratio. What *must* you have? What *can* you afford? VGA cards cost between \$400 and \$600 (although diligent shoppers can shave as much as 40 percent from the list price). The cards reviewed here were chosen to give a fair representation of the many VGA cards available on the market today.

AST-VGA Plus

The AST-VGA Plus card is built around the same chip as, and performs much like, the highly rated Paradise VGA Plus card (1988 Editors' Pick, reviewed in the October 1988 issue of HOME-OFFICE COMPUTING). At the top resolution (800-by-600), the colors are bright and image quality is clear and sharp.

Configuring the card can be done without opening the computer or removing the board. The setup software displays the proper switch settings on the screen. It's a handy way of helping you along. A "Quick Installation Sheet" is included to help you get the card up and running fast.

The standard limited warranty covers the card for two years from the date of purchase. There's also a technical support telephone line—but you'll have to foot the charges.

Genoa SuperVGA HiRes-10

Genoa's SuperVGA HiRes-10 card, with its whopping 1,024-by-768 resolution, is a superior performer. Details are crisp and colors bright. This is an expensive board, however, and may not be the best value.

A table of switch settings in the manual simplifies the configuration of the board, though it is a bit confusing since every choice refers to an IBM monitor model number. You will have to relate the IBM model to whatever monitor you may have.

Among the Genoa utilities is a colorful menu-driven video-mode selection program that enables you to override the DIP switch settings and immediately observe the effect (on the screen) of each mode. If the monitor is not suitable for a particular mode, the program tells you.

The standard limited warranty is for one year. Out-of-warranty service is at a flat rate of \$100. There is no dedicated technical support line.

Quadram QuadVGA

The display quality of the Quadram QuadVGA card is good, but not quite up to par compared to some of the other VGA boards. It does its job—no more and no less. However, the price is lower than that of most VGA cards and it is the slowest of the six cards reviewed. It is certainly a suitable choice for use with a monitor whose resolution matches that of the board (640-by-480). If you want some super high-res dazzle, the QuadVGA is not for you.

Configuration of the board to your system is simplified by the switch-setting tables in the manual.

The limited warranty is for two years. A flat rate of \$120 is charged for out-of-warranty repairs. The technical support staff

can be reached through a telephone audio-menu system—but it's not toll-free.

STB VGA Extra/EM

The colors of the STB VGA Extra/EM are brilliant but the image quality could be sharper. You'll need a top-of-the-line monitor to make the most of the impressive 256-color display.

To take advantage of the very high resolution mode (1,024-by-768), you'll need to upgrade the Extra/EM to 512K from the standard 256K.

The board's configuration is factory set to match a VGA monitor. With CGA, EGA, or monochrome monitors, you'll have to make some changes in these settings—a simple procedure clearly explained in the manual.

The card has a two-year limited warranty. Out-of-warranty repairs are \$25 plus the cost of parts. The only telephone number is the company's normal business line.

Tecmar VGA

The Tecmar VGA is well made and reliable. Color saturation is acceptable—better than some boards but not so good as others. With the supplied RAMBIOS utility installed, screen activity (scrolling and rewriting) is brisk.

The included software will guide you through the proper setup for your monitor type and application software.

The Tecmar VGA display adapter comes with a two-year limited warranty. Within the first six months of ownership, the company

SIDE-BY-SIDE COMPARISON OF SIX VGA CARDS

Model	AST-VGA Plus	SuperVGA HiRes-10	QuadVGA	VGA Extra/EM	VGA	FastWrite VGA
Manufacturer	AST Research, Inc. 2121 Alton Ave. Irvine, CA 92714 (714) 863-1333	Genoa Systems Corp. 75 East Trimble Rd. San Jose, CA 95131 (408) 432-9090	Quadram Corp. One Quad Way Norcross, GA 30093 (404) 923-6666	STB Systems, Inc. P.O. Box 850957 Richardson, TX 75085 (214) 234-8750	Tecmar, Inc. 6225 Cochran Rd. Solon, OH 44139 (216) 349-0600	Video Seven, Inc. 46335 Landing Pkwy. Fremont, CA 94538 (415) 656-7800
Suggested Retail Price	\$599	\$549	\$395	\$399	\$395	\$599
Rating	★★★	★★★	★★★	★★★	★★★	★★★★
Performance Rating ¹						
Line Drawing Test	39/21 ³	41	71	41	35	33/17 ³
Fill Test	194/105 ³	NA	363	186	187	171/85 ³
Memory (Std/Max)	256K/512K	512K/512K	256K/256K	256K/512K	256K/256K	256K/512K
Video Output	Analog	Analog and Digital	Analog and Digital	Analog and Digital	Analog and Digital	Analog and Digital
Additional Display Modes ²						
w/256K RAM	800-by-600, 16-color	None	None	800-by-600, 16-color	800-by-440, 16-color 800-by-600, 16-color	640-by-400, 256-color 720-by-540, 16-color 800-by-600, 16-color
w/512K RAM	640-by-480, 256-color	512-by-512, 256-color 640-by-480, 256-color 800-by-600, 16-color 1024-by-768, 16-color	None	640-by-480, 256 color 800-by-600, 256-color 1024-by-768, 16-color	None	640-by-480, 256-color 1024-by-768, 4-color
Bus Connector Type	AT (16-bit)	PC (8-bit)	PC (8-bit)	PC (8-bit)	PC (8-bit)	AT (16-bit)
Dimensions (length, inches)	¾, 7.5-by-4	Half, 6.7-by-5	Half, 6-by-4	¾, 7.3-by-4	Half, 5.5-by-4	Full, 13.5-by-3
Warranty (years)	2	1	2	2	2	5
Software Drivers Included	AutoCAD, CADvance, Framework II, Lotus 1-2-3, Symphony, Ventura Publisher, Windows, WordPerfect, and WordStar	AutoCAD, Framework II, GEM, Lotus 1-2-3, Ventura Publisher, and Windows	AutoCAD, GEM, Lotus 1-2-3, and Windows	AutoCAD, AutoShade, GEM, Lotus 1-2-3, Symphony, Ventura Publisher, and Windows	AutoCAD, GEM, Lotus 1-2-3, Ventura Publisher, and Windows	AutoCAD, AutoShade, GEM, Lotus 1-2-3, Presentation Manager, Symphony, Ventura Publisher, Windows, WordPerfect, and WordStar

KEY: ¹Tests performed using PowerMeter v. 1.4 measuring two common functions of a graphics program—drawing lines across the screen and filling in an area with color. Both numbers are given in seconds—the lower the number, the faster the card. ²All cards support MDA, HGC, CGA, EGA, and 132-column mode. ³Test results for card first in a PC slot and then in an AT slot. NA Genoa SuperVGA HiRes-10 test result not available. Card failed the Fill Test. ○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★ Excellent.

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Computers sit idle and software snoozes on the shelf because the manual is so "complete" that it's difficult to find the simple instructions you actually need.

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Everyone is involved in projects, whether a simple home improvement to sophisticated product launching or business planning. Now is the time to computerize an learn how to save time an money by using project management software. Gantt, Pert, and CPM are no longer a mystery. *LogicWare* helps you understand how they work and the benefits from proper planning. *LogicNotes* give you useful hints and complete activity lists of the most common projects for the home or office.

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It's time to really learn how DOS works. Instead of concentrating on the massive power of all those cryptic commands that you never use, *LogicWare* shows how the most commonly used keystrokes manage all your files and open up the world beyond that blinking C> prompt. *LogicNotes* gives you easier keystroke directions and ideas to better use DOS.

Accounting

Now is the time to computerize your home or office accounting. It's easier and more accurate, and there are great accounting packages for under \$100. *LogicWare* presents all the accounting you need to understand computer accounting. From single and double entry, cash and accrual, general and sub-ledgers to financial statements, it's all easy with *LogicWare*. Its companion, *LogicNotes* give you easy to follow flow-charts and complete samples of home and office charts-of-accounts, and guides to select the right software and hardware.



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MS-DOS	@ \$19.95	_____
Full 4 program set	@ \$69.95	_____
Subtotal		_____
Texas residents add 8% sales tax		_____
Shipping	\$5.00	_____
Total		_____

Name _____
Phone(_____) _____
Address _____
City _____ State _____ Zip _____
VISA _____ MC _____ AMEX _____ Check _____
CC# _____
expires _____
Your Signature _____

Please allow 3-4 weeks for delivery.
Restocking fee of \$7.50 for returned programs. **HO**

provides "Quick Turn Quality Service," which means that the board will be returned to you after replacement or repair within 48 hours of receipt by Tecmar. There's a technical service hotline (you pay) and a toll-free Quick Turn hotline.

Video Seven FastWrite VGA

From the standpoints of speed, color, and display clarity, Video Seven's FastWrite

VGA (1988 Editors' Pick, December 1988 issue) is the most impressive VGA board I've tested. It's among the most expensive of the boards of this type, but it is the fastest at both the Line Drawing and the Fill tests. If you want speed and superb image quality, you should give this little wonder a long look.

The less-than-ideal manual is sketchy in its explanation of the board's configuration. The software, however, helps you fine tune

the setup to suit your needs. As it happened, I needed to do nothing more than pull out my old video card, plug in the FastWrite VGA, and connect the monitor. Wow—what a picture!

The limited warranty covers the FastWrite VGA for five years from the date of purchase. This may be the longest video-card warranty in the industry. Technical assistance is available via a toll-free line.

Four Products for Business on the Move

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors combine the reviewers' rankings, the lab test results, and their own experience and judgment into an overall rating on a scale of zero to four stars:

- Poor
- ★ Average
- ★★ Good
- ★★★ Very Good
- ★★★★ Excellent

Compact Compaq Laptop Features Groundbreaking Display

COMPAQ SLT/286 Model 20

Compaq Computer Corp., 20555 FM 149,



Houston, TX 77070; (713) 370-0670

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$5,519

MICROPROCESSOR: Intel 80C286 (12MHz); socket for 80C287 (math coprocessor)

MEMORY: 640K, expandable to 3.6MB (supports Lotus/Intel/Microsoft Extended Memory Specification 3.2)

DISPLAY: 10-inch (diagonal) backlit, compensated, supertwist, liquid-crystal display. Supports VGA resolution 640-by-480 with 8 shades of gray, and 320-by-200 with 16 shades of gray.

DISK DRIVES: 1.44MB 3.5-inch floppy-disk drive, 20MB hard-disk drive (29ms access speed)

PORTS: external VGA monitor, parallel, serial, external keyboard, numeric keypad, 5.25-inch floppy-disk drive or tape backup, desktop expansion base

FREE EXPANSION SLOTS: none

SOFTWARE INCLUDED: DOS 3.3

DIMENSIONS: 13.5-by-4.2-by-8.5 inches

WEIGHT: 14 pounds (with battery pack); additional battery packs 1.8 pounds each

WARRANTY: One year

If you're looking for an 80286-based laptop, have I got the machine for you: the new Compaq SLT/286. It's the first laptop that

sports a VGA display (monochrome LCD). In my judgment, it's one of the most appealing laptops on the market.

It looks like an oversize lunch box and weighs about 14 pounds (including the battery). Inside, you'll find a 10-inch backlit display, a removable keyboard that sits on top of the base, a 3.5-inch 1.44MB floppy-disk drive that's right in front (most laptop drives are on the side), and either a 20MB or 40MB hard-disk drive (the Model 40, with the 40MB hard-disk drive, retails for \$6,119). True to its billing, the unit is suitable for use on your lap. Though its 14 pounds may get heavy after a while, it's about 4 pounds lighter than the average 80286-based, hard-disk-equipped laptop.

The new display (with 16 shades of gray) is the sharpest and clearest LCD I've ever seen. Contrast and brightness slide switches let you adjust the display for different lighting conditions. Since the display is illuminated from behind (backlit), you can use this laptop in environments that have less-than-ideal lighting.

After a few hours of typing, you'll be familiar with the key positioning on the Compaq SLT/286 keyboard. It doesn't have a dedicated numeric keypad, but you can purchase one for \$149. I do, however, feel that the keyboard falls a little short of Compaq's standards; the 82-key detachable keyboard has a firm touch, but it just doesn't feel as good as a desktop keyboard. A standard Compaq keyboard can be hooked up to the laptop via a connector on the back panel.

When fully charged, the Compaq SLT/286 can last about three hours. When the battery has ten percent and five percent of its power left, the unit warns you with a series of beeps. The laptop also acts as a charger for the battery. The charging process is one of the fastest around: It takes about an hour-and-a-half to charge the battery while the laptop is not in use, three hours if it's in use.

PC Software for \$34.99

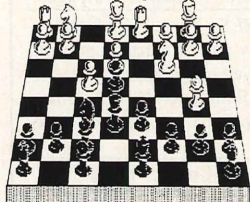
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GAMES

ARCADE GAMES (106) Has Kong, 3-D Pacman, Bricks, Pango. (Requires color.)
BASIC GAMES (107) Pacman, Lunar Lander, Star Trek, Meteor, Breakout, and others.
CARD GAMES (109) Canasta, hearts, draw poker & bridge.
STRIKER (110) Defender-like game. "Top Gun" in space.
FLIGHTMARE (112) Futuristic fighter pilot game. (Requires color graphics adapter.)
SLEUTH (117) Who done it?
DND (119) Like Dungeon and Dragons.
ROUND 42 (120) Better than Space Invaders. 42 levels.
GAMES IN BASIC (124) Lander, biorhythms, desert, Phoenix, Star Wars, others.
QUEST (152) Role playing adventure fantasy game. (Requires CGA.)
SPACE WAR (158) Dogfight in outer space, using phasers, photon torpedoes, etc.
BRIDGE PAL (171) Complete game of contract bridge, with tutorial.
FENIX (193) Just like the famous arcade game.
PINBALL GAMES (197) Pinball, Rain, Twilight Zone, Wizard, etc.
KID-GAMES (GAM8) Animals math, clock game, alphabet, etc.
CHESS (GAM9) Incredible. 2D and 3D. Many levels. Play back moves, store games.



EGA RISK (GAM11) World domination in great color. Includes EGA Asteroids.
PC PRO-GOLF (GAM27-28) Great graphics. Complete 18 hole, 72 par course. (CGA)
PEARL HARBOR (GAM32) Shoot down Jap Zeros before they destroy U.S. Fleet. (CGA)
ULTIMA 21 DELUXE (GAM34) Best Blackjack game around. Includes Video Poker.
FORD SIMULATOR (GAM37) Great driving simulation. (CGA)



MUSIC

PIANOMAN 3.2 (301) Turn your keyboard into a piano.
PC-MUSICIAN (302) Compose, save, and play music.

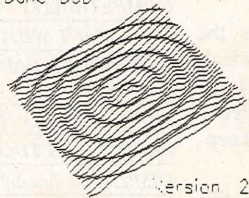
CHRISTMAS SONGS (311) Play your favorites on a PC.

WORD PROCESSING

PC-WRITE 2.71 (401-402) (2 disks) Latest version of this popular program w/spelling checker.
PC-TYPE+ (421-423) (3 disks) Excellent. Includes mail merge, 100,000 word spelling checker. Interfaces with PC-File+, PC-Style.
MAXI-MAX (432) 59 macros to use with Word Perfect 4.2 or later. 11 templates for forms, border designs, etc.

GRAPHICS

KEYDRAW CAD SYSTEM (1001, 1002, 1065) (3 disks) Popular. Also uses mouse. (Requires color graphics - CGA.)
DANCAD 3-D (1051, 1052) (2 disks) Create 3-D graphics. Rotate, magnify, etc. Runs on CGA, EGA, or Hercules.
Danc - D3D



SIDEWAYS (1007) Prints text sideways. Useful for spreadsheets.
SIMCGA/HGCIBM (1027, 1062) (2 disks) Use with Hercules graphics card/compatibles to run programs requiring CGA on your monochrome PC.
IMAGE 3-D (1048) Create and edit 3-D objects. Move, scale, rotate and tip image.
FINGERPAINT (1050) Use keyboard or mouse to draw. Like MacPaint. (Requires CGA or EGA.)
FANTASY (1057) Create flowing graphic images with mouse or keyboard. (CGA.)
FLOWCHARTING (1078-1079) Complete system for flowcharts, organizational, electrical, etc., with symbols.

RELIGION

THE BIBLE (3301-3306) (6 disks) Old Testament, King James version.
THE BIBLE (3307-3308) (2 disks) New Testament, King James version.
WORD WORKER (3309-3310) (2 disks) Bible search program. New Testament, King James version.
BIBLEMEN (3330) Excellent Bible quiz program.

BASIC

PC-PROFESSOR (1401) BASIC tutorial. Good.
BASIC PROGRAM GENERATOR (1402) The menu driven way to write programs.

B-WINDOW (1407) Give windowing capabilities to your Basic program.

UTILITIES

HOMEBASE (2608, 2612, 2613) Complete desktop organizer. Great!
LIGHTNING PRESS (2718) Print-shop clone. Includes graphics for many uses.

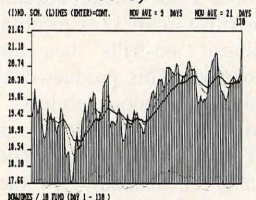
1. GREETING CARD
2. POSTER
3. LETTERHEAD
4. BUSINESS CARD
5. PRINTER SETUP
6. EXIT TO DOS



PROFESSIONAL MASTERKEY (2805) Like Norton's. Retrieve deleted files. A lifesaver.
BAKER'S DOZEN (2821) 13 utilities from Buttonware.
AUTOMENU (3003) Make PC menu driven. Incl. passwords.
SCREEN (3006) Save your monitor from screen burn-in.
DOT MATRIX FONTS (3061-3062) (2 disks) Print your text in different fonts. Works with most printers.

ACCOUNTING/FINANCE

MARKET CGA (BUS17) Performs sophisticated analysis on stocks, funds, etc. (EGA version is BUS16).



BILLPOWER+ (BUS40) Bill clients for time and materials, advances, retainers, etc. Computes taxes, past due interest, etc. Has full G/L.
CPA LEDGER (706-708) (3 disks) Complete general ledger for corporations, partnerships or sole proprietors.
PERSONAL FINANCE MANAGER (715) Household budget manager. Keep track of checking, savings, investments.
PAYROLL USA (725-726) Up to 2,000 employees in any state. dBaseIII and Lotus compatible. Complete P/R system.
EXPRESS CHECK (786) Check account with running balance, monthly reports, etc. Prints checks.
FINANCE MANAGER II (774-775) (2 disks) For personal or small business financial management.

SPREADSHEETS

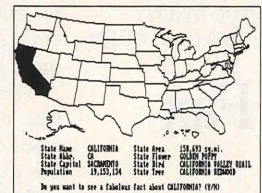
AS-EASY-AS (505) Great. Includes screen help menus. Utilizes function keys. A Lotus clone that reads Lotus files.
PC-CALC+ (512-514) (3 disks) Jim Button's famous Lotus clone.

EDUCATION

AMY'S FIRST PRIMER (248) Children's learning game that teaches letters, numbers and keyboard.



FUNNELS AND BUCKETS (201) A fun way to learn math.
MATHPAK (202) Tutorial with lessons in higher math.
PC-TOUCH (204) Learn typing.
BASIC TUTORIAL (208) Learn programming with BASIC.
BEGINNING SPANISH (211) Tutorial.
SPANISH II (232) Sequel.
BIBLEQ (214) Learn the Bible with this Q-A tutorial.
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You can carry additional fully-charged battery packs (\$129 each) with you, or you can just plug the unit into an AC outlet.

To conserve power, the Compaq SLT/286 display, hard-disk drive, and microprocessor will temporarily shut off when idle. You can change the time limit by using the setup program.

The unit has no expansion slots, but for \$999 you can purchase a desktop expansion base with two AT expansion slots (8/16-bit). The unit will accept a Compaq internal 2400-baud modem (\$599), and other options include an external 5.25-inch 360K or 1.2MB floppy-disk drive (\$275), and a 40MB tape-backup unit (\$799). You can also add up to 3MB of memory using Compaq's 1MB memory boards (\$799 each). The optional carrying case (\$89) is strongly recommended for all laptop owners.

The Compaq SLT/286 costs about \$500 more than other 286-based laptops. But in return, you'll get a machine that's setting the laptop standard, as well as Compaq's quality, performance, and support. It is just as fast as your 12MHz 286-based desktop computer, except you can take this one off your desk and on the road with you. I highly recommend this full-function laptop and am considering buying one myself. However, I do have one challenge for Compaq: can you make this almost-perfect laptop lighter?

—STEVEN C.M. CHEN

Take This Fax With You

Cobra Print Phone Portable PP-110

Cobra Electronics Group, Dynascan Corp., 6500 W. Cortland St., Chicago, IL 60635; (312) 889-8870

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$999

COMPATIBILITY: Group 3

DOCUMENT WIDTH: 4-to-8.5 inches

RECORDING PAPER SIZE: 8.5 inches-by-60 feet (roll)

MODEM SPEED: 4800 baud (automatic fallback)

PRINTING METHOD: Thermal

RESOLUTION: Standard (203-by-98) and fine (203-by-196)

ADDITIONAL FEATURES: Copy function

DIMENSIONS: 12.3-by-9-by-3 inches

WEIGHT: 7.3 lbs.

WARRANTY: One year (overnight replacement)

The growth in the facsimile machine market has resulted in a competitive flurry to produce affordable units that do everything but tap-dance. You can now buy, for instance, a fax that will automatically receive and send documents, store several dozen phone numbers, call any or all of them at a preset time,



separate incoming faxes into page-size pieces, and keep a detailed log of all activity.

This is a great time for the high-end consumer. But there are many users like myself who don't need a feature-rich fax machine. We just need one that sends a few pages at a time to one number at a time. We don't need sophisticated polling capabilities or preprogrammed transmission with answer-back codes. For the most part, we'll be there when we want to send a document and it will most likely be over a phone line that is also used for regular voice communications.

For those of us with these basic needs, the Cobra Print Phone Portable PP-110 is ideal. The design considerations behind this fax machine consisted of taking a simple idea—build an easy-to-use portable fax—and keeping it simple.

The Cobra Print Phone Portable is just that, a no-frills Group 3 fax machine. In this case, calling it "no-frills" is a compliment, not a pejorative. This product does exactly what it should—no more, no less.

The Print Phone Portable is a breeze to operate. You can set it to receive documents automatically or manually. In the manual mode, pick up the phone when it rings and, if you hear the squeal tone from another fax machine, press the START button and hang up the phone. Sending a document is just as easy: insert the first page in the unit, dial the number on a telephone connected to the same line and, when you hear the tone, press the START button and hang up the phone. The Print Phone Portable does the rest.

Why doesn't the Cobra Print Phone Portable have its own telephone built in? A built-in phone would have spoiled the simplicity of this unit and would also get in the way of using the machine while traveling. This is, after all, a portable fax machine and can be easily used in hotel rooms with any kind of phone system. Whereas the Print Phone Portable is designed to be used with a modular jack, there is an optional acoustic coupler (\$50) for use with phones lacking modular jacks, such as those in some hotel rooms or cellular phones.

The quality of the printout from even the best fax machines is limited by the use of

thermal paper. The output of the Print Phone Portable compares favorably with most of the fax documents I've seen. Replacing the paper is simple: drop the roll in, unroll a couple of inches, and close the cover.

The Cobra Print Phone Portable PP-110 stands out because it delivers exactly what it promises. Cobra took the basic features needed in a fax machine and put them together seamlessly. They didn't add a lot of flashing lights and readouts or require an advanced degree to put the Print Phone Portable through its paces. Cobra adhered admirably to the keep-it-simple principle and produced a very useful machine. —STEPHEN MILLER

A Fax for High Volume

Toshiba 3700

Toshiba America Inc., 9740 Irvine Blvd., Irvine, CA 92718; (800) 537-6611

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$2,496

COMPATIBILITY: Group 3 and Group 2

DOCUMENT WIDTH: 5-to-8.5 inches

RECORDING PAPER SIZE: 8.5-inches-by-164 feet (roll)

MODEM SPEED: 9600 baud (automatic fallback)

PRINTING METHOD: Thermal

DISPLAY: 1 line-by-20 characters

RESOLUTION: Standard (208-by-96) and fine (208-by-196)

AUTOMATIC DOCUMENT FEEDER: 10 pages

ADDITIONAL FEATURES: Terminal identification, voice request, delay and turnaround polling, activity reporting, delayed transmission, 30 fax and 30 telephone speed-dialing numbers, automatic redial, automatic paper cutter, 16-level gray scale

DIMENSIONS: 11.5-by-13.4-by-5.1 inches

WARRANTY: One year

The Toshiba 3700, which has a more industrial look than some of the other fax machines on the market, is designed for frequent use. It has a 10-page document feeder and an automatic paper cutter. However, in keeping with its industrial feel, the 3700 does not have a built-in phone. This seemingly insignificant oversight appears to be the machine's Achilles' heel.

But first things first. The 3700's paper-handling is superb. I initially had trouble getting the paper roll to feed through the thin slot, but after half an hour on the toll-free hotline with a technical rep from Toshiba, I'd solved the problem. The machine had been tight (like the steering wheel on a new car) so I had to push a stiff envelope through the slot a few times to loosen it up. After that, the thermal paper slipped through smoothly and has never required attention again.

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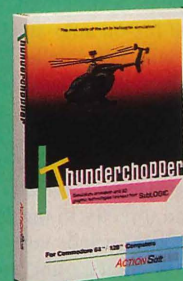
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CIRCLE READER SERVICE 63

What's most alluring about the 3700 is the automatic paper cutter. Other faxes I've used have spewed 10- or 20-foot rolls of curled paper onto my office floor. I'd cut the roll into page-size pieces and then flatten them under a heavy dictionary. The 3700 cuts and stacks incoming documents into pages.

Sending a document is equally painless. I just stack the document (up to 10 pages) on the feeder, dial the destination fax number, and press START. With a manual-feed system, I'd spend 30 or 40 seconds sending each page and sometimes lose the phone connection if I didn't feed the next page in fast enough.

If you're going to use your home-office fax machine on a regular basis, I strongly recommend investing in one with a paper cutter and an automatic document feeder.



Now, to the phone—or lack of it. Built-in phones on fax machines are not meant to be great speaking devices and usually have poor sound quality. But after using a fax without a phone, it becomes clear that the phone gives you more control over the machine.

A standard phone cable runs from the 3700 to the outside phone line. You dial from a control panel and press START, which is easy enough—unless there's a problem. Several times I dialed, and the machine didn't send; the display said ONLINE. That message is no help. Nor is COMM ERROR, which I got several times.

Naturally, I tried to disconnect and start over. I pressed the RESET button, as instructed, but that didn't always work, or work quickly. Even unplugging the phone line from the fax machine doesn't automatically reset the machine. In short, the 3700 without a phone is annoying.

When I left the fax on auto-answer, it received documents without fail. But I don't always want the fax on auto-answer because it will interfere with voice calls. However, if I pick up my desk phone and hear a high-pitched fax sound, I know that someone is sending me a fax and I should START my machine. That didn't work. There is no way to receive a document manually without a phone connected directly to the fax.

With a phone connected, you can pick up and hear a busy signal, and not rely on un dependable LCD messages. You can dis-

connect by hanging up the phone! It's simple.

Adding a phone to the 3700 adds to the cost and requires more space, since it's not integrated into the machine. If the 3700's communications were a little more sophisticated, or if its displays were more helpful, a phone wouldn't be needed.

Mind you, the 3700 is not difficult to use. It's just occasionally annoying. I've tried other fax machines that were much easier to use, and better designed for typical consumers like myself. However, they didn't have all the features of the 3700.

—NICK SULLIVAN

Quality Cordless: A Cut Above The Rest

Southwestern Bell Freedom Phone FF-1700

Southwestern Bell Freedom Phone Division, 7442 Shadeland Station Way, Indianapolis, IN 46256-3925; (317) 841-8642

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$180

TYPE: Cordless speakerphone

MEMORY: 9 (maximum of 16 digits each)

RANGE: 1,000 feet

FEATURES: Hold, mute, clear, redial, speaker, intercom, and pause buttons; tone/pulse and 10-channel select switches; volume control; range extender antenna; digital security system

DIMENSIONS: Control unit: 10-by-2.5-by-6.5 inches; handset: 11-by-2.5-by-2.5 inches

WARRANTY: One year (extension to 10 years available for \$30)

The most important aspect of any telephone is the sound quality. Unfortunately, most cordless phones make a conversation sound like you are in a cave—not pleasant. Southwestern Bell seems to have solved this problem: They've designed an exceptional cordless telephone. With a little initial experimentation, the FF-1700 gives you the freedom of a cordless with the sound quality of a corded phone.

The amount of time required to set up the FF-1700 depends on operating conditions in your area. For me, after the initial setup, the phone had a very loud "hum"—perhaps caused by other cordless phones in use in my area.

Most cordless phones are preprogrammed to operate at a certain frequency. If that frequency conflicts with other phones near your home, you have to return the phone and get another one set for a different frequency. The FF-1700 lets you choose one of 10 frequencies, or channels. To change channels, you adjust the two sets of channel selector

switches, one in the handset and one in the control unit, to the channel that is best for your area. Both sets of switches must be set to the same channel for proper operation.

Besides exceptional sound, the FF-1700 is a quality unit through and through. The handset is chunky and slightly heavy but obviously well made, with a pulse/tone and a volume switch, and mute, intercom, redial, and pause buttons. Each of the features worked well.

The antenna has a coil that extends the range of the handset from the control unit to 1,000 feet. The only drawback to the handset is the absence of a hold button (a control-unit feature only).

The control unit of the FF-1700 is one of the best I have seen. Although most cordless phones have speakerphone and intercom abilities, the FF-1700 has better speakerphone sound quality than most of the others I have listened to. There is also the usual mute button, which, when depressed, disengages the mouthpiece for private conversation in the room.

The hold button is a welcome feature. While a call is on hold, the intercom may be used to communicate with the handset. The



call can then be picked up by the handset, control unit, or both for a three-way conversation. The control unit also has a second keypad which lets you use the speakerphone to make a call even though the handset is not readily available.

The FF-1700 also has a digital security system built into the control unit. Once set, the security system will disable any phone on the same line to prevent others from listening in on your conversations.

One annoyance: the ring of the FF-1700 is similar to that of a smoke detector. It was alarming at first, but I did adjust to it after several days.

If you are looking for a high-quality cordless phone, the Southwestern Bell FF-1700 is a top contender.

—JOHN D. OEHLER

California

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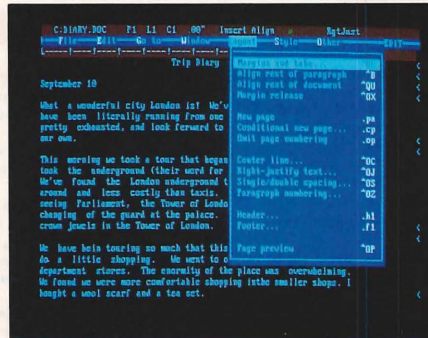
Three Word Processors: WordStar, MindWrite, and Webster's New World Writer II

Plus: An Amazing Way to Save Money on Long-Term Loans

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"—where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicated—with the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

Designation	Models
128K Apple	IIe/IIc/IIGS (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIGS (in IIe/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★ Excellent



Easy-to-operate drop-down menus are WordStar 5.0's most noticeable enhancement.

WordStar Professional

VERSION REVIEWED: 5.0

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2 (512K required for Advanced Page Preview or PC-Outline); two drives (hard-disk drive recommended); CGA, EGA, VGA; 5.25- and 3.5-inch

PUBLISHER: MicroPro International Corp., 33 San Pablo Ave., San Rafael, CA 94903; (415) 499-1200

PRICE: \$495

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR-HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★ ★

Eagles mate for life, they say. Some of us feel the same way about our word processors. Once you've spent hours mastering a particular program, the thought of dumping it for a new one and starting all over is tragic. That's why I stuck with *WordStar* for five years—the *only* reason. Other word processors added friendlier user interfaces, automatic text alignment, column control, and footnotes. *WordStar* ignored most of them—until now.

Just when the thought of another semester of writing papers without footnotes was tempting me to abandon *WordStar* altogether, MicroPro released *WordStar Professional* 5.0. It has everything: footnotes, endnotes, columns, sophisticated page previews, and laser printer control. Now I can combine drop-down menus for hard-to-remember

commands with the control-key sequences I'm accustomed to, transfer text between windows, number paragraphs, and count words, without leaving my document. Suddenly I own an outliner, a thesaurus/dictionary complete with definitions, a file-search utility, and telecommunications and mail-merge software—all perfectly integrated with my word processor. I think I'm in love.

The most noticeable enhancement is ease of use. Where cryptic menus once took up half the screen, new pop-ups stay out of sight until I need them. Classic *WordStar* commands are always available whether a menu is on-screen or not. The menus aren't all-inclusive, however. I still had to dig through the manual to find out which command sorts a block of text—it's CTRL-K-Z, and I won't remember it next time, either.

Some features that were around in Release 4.0 have been spiffed up. One is the 100,000-word spelling checker, which has an uncanny ability to guess what I mean when I type "hte" or "therefore." It suggests correct spellings, and I put them in my file by simply pressing a number key. The new version catches accidentally duplicated words as well. The old thesaurus was adequate, but not spectacular; the update also defines words, a definite plus.

Still, it's the completely new features in which I'm most interested. Now I can type either newspaper-style columns that snake up and down the page (perfect for newsletters) or parallel, list-type columns—yet the text is displayed in a single column only, with rows of arrows along the side indicating the column and page. The Page Preview feature uses a reduced graphic format to show up to 24 pages as they'll look on paper.

The new notation feature is, well, noteworthy. Whenever I want to insert a note into my text, I simply type a command (or select it from a menu), indicate the kind of note I want (footnote or endnote), and type the text. *WordStar* numbers the note correctly, even if I skip back and forth through the file inserting references. When printing, *WordStar* will split a lengthy footnote and put the remainder on a separate page. As with columns, I can view footnote placement using Page Preview.

WordStar now includes an outlining utility

that's not as flexible as some stand-alone outliners, but still makes it easier to get my thoughts organized. I just wish it would let me turn already existing text into an outline. There's also ProFinder, a file utility that lets me scan my hard disk, add explanatory notes to directory listings, and work with groups of files. Its ability to create pop-up menus to simplify DOS is its best feature.

The publisher beefed up *WordStar's* already outstanding mail-merge utility, Mail-List, a simple mailing-list program for creating and maintaining data files as well as merging them into a form letter. For those who prefer electronic mail, there's now a communications mode, TelMerge, that automates going on-line, saves data on disk as it scrolls past, and sends files using protocols such as XModem. However, unlike most dedicated communications programs, TelMerge doesn't offer much help in creating log-on information files. Good documentation alleviates the problem, but beginners beware. However, once the information is correctly entered, the program works well.

Version 5.0's documentation is thorough, and each of the included utilities has its own area in the manual, in most cases complete with a reference section. Though this makes it easy to learn a specific portion of the package, it makes it difficult later when I need to skim the manual quickly to find a

particular command.

WordStar 5 takes a lot of memory—a minimum of 384K. I thought my 640K would be adequate, but I soon learned that, if I want to use my favorite pop-up utilities while writing with *WordStar*, I won't have enough memory left to open a second window or insert footnotes. The program requires lots of disk space, too. A two-floppy-drive setup means too many disk swaps, so I had to free nearly 1.5MB on my hard-disk drive to install all 12 of the disks in the *WordStar* package. Prospective users with minimal computer systems might want a hardware upgrade before buying *WordStar 5*. One other factor that should affect only those who, like me, have older, slower PCs, is cursor lag during editing if the automatic justify feature is active.

I may just have to purchase a more powerful computer. I waited a long time for this version of *WordStar*, and it was worth it. I think this marriage is going to last.

—TAN A. SUMMERS

MindWrite

VERSION REVIEWED: 2.1

SYSTEM REQUIREMENTS: 512Ke Macintosh; two 800K disk drives; System 4.1 or higher

PUBLISHER: Access Technology, Inc., 200G Heritage Harbor, Monterey, CA

93940; (800) 367-4334, (408) 648-4000

PRICE: \$195

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR-HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★

For too many people, writing is akin to doing a prolonged workout session when you're out of shape. Whether the chore is creating a memo, a report, catalog copy, or a freelance article, we stumble where we wish we could run. Even though computerized support is available for the word-wary—spelling checkers, on-line thesauruses, grammar checkers that judge a document's contents—they really don't help us pass the major roadblock of writing, organizing our thoughts into a coherent message. If that's your problem, *MindWrite* version 2.1, an integrated word processor and outliner, may be one ally in your war against words.

While *MindWrite* offers all the basic Macintosh word-processing functions including spell checking, there aren't the high-end features like automatic indexing or macros that one expects in such powerhouses as Microsoft *Word* or *WordPerfect*. So, in one sense, *MindWrite* is for those with relatively routine needs.

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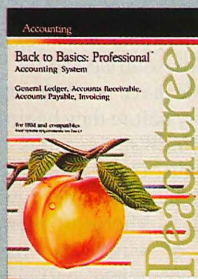
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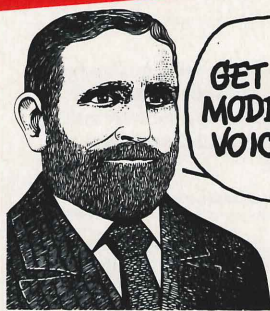
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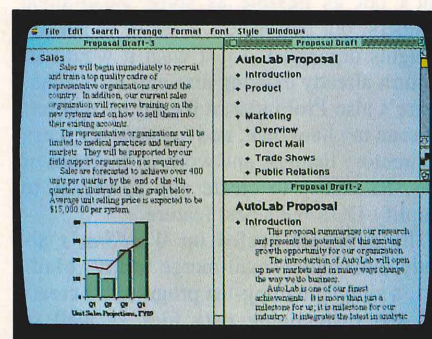
Yet *MindWrite* also offers a well-designed outlining facility to help you organize random thoughts into a precise hierarchy of ideas. Using the outliner, you enter basic ideas pertaining to your document with a freewheeling brainstorming technique. Then, once you line up your basic ideas, you begin to put them in order with main ideas as headings and related ideas beneath as subtext. These nested layers can be moved and changed with ease, a big benefit of the Macintosh interface. Simply placing the cursor at the left of the line will allow you to grab a heading and move it to a different location in the hierarchy.

At any time you can *collapse* or *expand* these headings and subtext. Collapsing them allows you to see the highest level—the overall picture. Each heading can also be expanded to show details in the text below, making it easier to judge accurately the overall flow of your piece. In addition, some special functions help you organize your thoughts. For instance, the Search command will find and gather all paragraphs containing a key word or phrase. You can then move them as a unit to another section or even to another document; *MindWrite* lets you open up to 16 documents simultaneously. *MindWrite* offers a unique cumulative Clipboard that stores all text that you have cut or copied during the session; this can be useful for reorganizing a document and makes it possible to retrieve a passage deleted several steps before.

For regular word processing, *MindWrite* delivers more than, say, *MacWrite*. For example, you can hide any graphics in a document when adding or editing text (graphics significantly slow down scrolling, so this feature keeps up the speed). The spelling checker looks for a space and capitalization after each period and only checks the paragraphs that have been changed since the last spell check (which greatly speeds up subsequent checks). The Sort command will sort your outline or any selected text into forward or reverse alphabetical order. In addition, a Shuffle command that generates a sort in random order can be handy for mixing around outline ideas to help you see new relationships.

MindWrite's complete, well-illustrated, 280-page manual has a comprehensive index for quick searches. A handy quick-reference card is included. An on-disk Guided Tour makes getting started as painless as possible. The publisher also provides an extensive help file in *MindWrite* outline format.

Some people have a clear idea of what they want to say before they begin to write. If that's you, *MindWrite*'s extras may be an unrequired bonus. Others have more formatting needs and thus need a heavyweight word processor such as Microsoft *Word* or *WordPerfect* (both of which also have built-in although less complete outliners). But if



MindWrite helps you write well by intuitively combining word processing and outlining.

you're like most people—with average word-processing demands and the need to organize ideas before writing—*MindWrite* is an impressive choice. —ROGER HART

Webster's New World Writer II

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2 (512K recommended); two drives (hard-disk drive recommended); 5.25- and 3.5-inch

PUBLISHER: Simon & Schuster Software, One Gulf + Western Plaza, New York, NY 10023; (800) 624-0023, (800) 624-0024 (in NJ)

PRICE: \$110

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR-HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

The principal strength of *Writer II* derives from its justly praised writing aids—Webster's New World Spelling Checker and Webster's New World Thesaurus. These can, in fact, be bought as independent programs for \$60 each. But when you further add a mail-merge facility and a supplementary program called *Outliner+*, you have in *Webster's New World Writer II* an attractive word-processing package at a bargain \$110.

As a general-purpose writing tool, *Writer II* can hold its own with any program in its price class. But for specialized text handling—as in desktop publishing or the creation of documents requiring complex formats, such as television scripts or legal briefs—*Writer II*'s lack of detailed formatting instructions would make it an inadequate choice. So look at *Writer II* for workaday word processing.

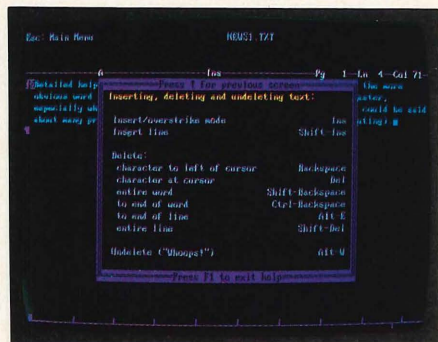
You can run *Writer II* in a floppy-drive system, but I wouldn't recommend it; it's not exactly a high-stepper on a hard disk, and on floppies it's downright leisurely. At text entry, it's like most other word processors, although it could stand a tune-up in scrolling through long documents and in searching or

SOFTWARE

replacing. Some tasks can be done quickly, however. You can, for example, store up to three different page formats for instant insertion; this is useful for switching between, say, normal double-spaced text and indented single-spaced blocks. Keystroke shortcuts exist for many editing operations. Suppose you want to change some lowercase text into uppercase (or vice versa). Just put the cursor at the first position and press ALT-V; stop when you reach the end. And if you've been too hasty in your own work and block-deleted something you really want, just press ALT-W—the "Whoops!" key—and your erased text will instantly return.

In fact, most features in *Writer II* can be activated with key combos. But for novices, nearly every function is also accessible through a menu system.

The 50-keystroke-capacity macro function lets you speed up work through automation. If you need to repeat a word or phrase many times, you can type the text, record it at the same time, then play back the macro later to insert the text as needed. A series of keystroke commands can also be automated the same way. As far as I've seen, there's no easier-to-use macro maker.



Detailed help screens are just one attractive aspect of the bargain-priced *Writer II*.

The software writing aids—spelling checker and thesaurus—are outstanding examples of their type. All spell-checking features can be accessed via keystroke combos: monitoring spelling as you write (unrecognized words are signalled with a beep), single-word check, cursor-to-end-of-text check, current-screen check, and full-document check. Action here is fast, replacement is instantaneous, and when you elect to replace a word, you're given a chance to back out. The thesaurus matches the speller in speed and convenience.

Outliner +, installed via a special routine, can be run either as a separate program or as a memory-resident utility that you call up from within *Writer II* or any other program. This utility allows you to create multilevelled outlines that can be exported (as ASCII text) to your main document. Conversely, text from your document can be imported.

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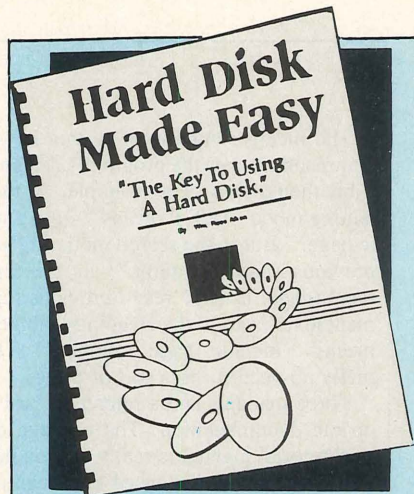
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The inconsistent use of certain keystroke commands makes the program's design seem a bit thoughtless. For example, in the text editing mode, ALT-P means "go to a specific page." But in the search mode, it "recalls previous search patterns"; in the replacement mode, it will "recall previous replacement text"; and in the Headings submenu, it means "include page number." There's really no need for this sort of thing.

Three manuals and a reference card make up the documentation. The 64-page quick-start/tutorial manual is really all you need to get going, and experienced users can probably skip all but the installation information. For newcomers, the tutorial is an adequate introduction to word processing in general and *Writer II* in particular. The 222-page reference manual is also adequate, if not as detailed as it could be. The 62-page manual for *Outliner+* explains the program's operations, but does so in a cursory way. There are far fewer illustrations than would be helpful, particularly for a beginner at outlining.

The software doesn't let you edit more than one file at a time, or even split the screen to edit two parts of the same file. That's a big weakness—at least the way I process words. Further, the program cannot print in multiple columns or display more than 80 columns of text. Another negative is the program's overall slowness. Likewise,

the multiple definitions for several command keys can be annoying. Why must the user keep relearning the meaning of, say, ALT-P?

On the plus side, this is an easy-to-use word processor, functional for almost any day-to-day writing tasks other than those that require complex formatting. The option of using command keys or pull-down menus, the extensive on-line help screens, the various editing aids (Whoops!, for instance), and, of course, the spelling checker and thesaurus make this an attractive package—especially given the very reasonable cost. The inclusion of both mail-merge and a first-rate outliner certainly adds to the appeal of the *Writer II* package.

—HENRY F. BEECHHOLD

A Banker's Secret

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 128K IBM PC, PS/2; 5.25- or 3.5-inch

PUBLISHER: Good Advice Press, P.O. Box 78, Elizaville, NY 12523; (914) 758-8249

PRICE: \$32

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR-HANDLING: ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★ ★

The secret in this eye-opening package is how to save thousands of dollars on a long-term loan (such as a mortgage) and retire that loan years ahead of time. *A Banker's Secret* lucidly explains the benefits of prepaying small amounts of the principal monthly in order to reap huge savings in interest payments over the life of a loan. The software helps you compute a full amortization schedule for almost any loan and figure out how much a few dollars extra a month will save you in the long run.

This is the only software package I've seen where the manual—which takes a confusing topic and makes it crystal clear for ordinary people—almost stands on its own. The booklet contains a clear discussion of such issues as why prepayment works, why it's a better investment than many others around, and how to use the special schedules you print out to keep track of your savings.

Even the term *amortization*, which always makes me wince, is made so lucid that people without any financial expertise can understand how to make a reasoned decision in evaluating competing mortgages, refinancing a loan, or determining how an adjustable rate is going to affect their budget.

Instructions in the back of the manual take you step-by-step through the math, so that you can come up with the tables using a calculator. Still, even though you don't need

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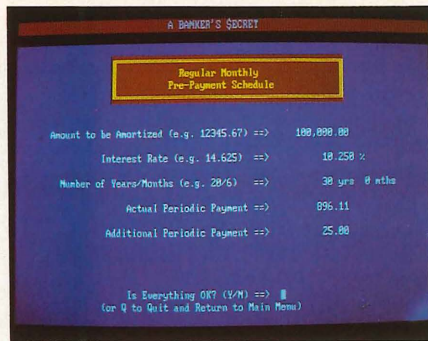
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a computer to benefit from this inexpensive package, the software is so easy to use that it's a big timesaver. You choose whether you want to make regular prepayments or just send in additional amounts when you have a little extra money. Then plug in the numbers: the amount of the outstanding balance, the interest rate, and how many years and months are left of the loan.

In a minute or two, the program produces an amortization schedule with monthly payments broken down into principal and interest. (These keep changing over the course of a loan. The interest portion is high at the beginning, the principal very low; later, the proportions reverse.) Another column lists the outstanding balance after each payment. At the top is the loan's summary: amount, interest rate, number of payments, periodic payment, total interest if no principal is prepaid, and the combined interest and principal you'll pay in full. You can view the schedule on-screen or print it out and use it to keep a record of irregular prepayments.

To see the effect of regular prepayments, you can print a schedule with the extra amount incorporated. In that case, the loan's summary will also include the total interest your monthly prepayment will save, as well as the number of months you will cut off the term of your loan.

I used the summary feature for regular prepayments to examine several scenarios.



A Banker's Secret shows how, by prepaying part of the principal, you can save thousands of dollars and several years on long-term loans such as mortgages.

Here's a sample of the savings my "what-if" schedules revealed.

For a 30-year, \$50,000 mortgage at 10-percent interest, regular monthly prepayments of \$25 will produce savings of approximately \$30,000 and cut seven years off the term. For a \$100,000 mortgage, that same \$25 prepayment will save about \$36,000 and four years. For a \$150,000 mortgage, the savings are \$39,000 and two years.

At interest rates of 12 percent, a \$25 monthly prepayment would save approximately \$43,000 to \$55,000 to \$60,000 for the same three mortgages. At 10-percent interest, even prepayments of a mere \$5 or \$6 per month can recover over \$10,000 in inter-

est and cut a couple of years off your mortgage. Makes you think, doesn't it?

Prepaying a loan's principal works because, every time you pay off part of your principal, you don't have to pay the interest on it—interest that is compounded over and over again, year after year. By paying more of the principal in the beginning, you pay less interest and retire the loan more quickly.

If you have an adjustable rate mortgage, running a few of these schedules can help you figure out how to buffer yourself against a future increase in interest rates by prepaying in small amounts now.

Being a new homeowner myself, I kept thinking, "Sure, it sounds good, but what about the great tax deductions I'm supposed to get on all that interest I'm paying?"

A Banker's Secret anticipated the question and showed how overall interest payments in a loan's early years are reduced only slightly. So you still have the same big tax deduction. Where you save is at the end of a loan, by cutting years off the term of the mortgage.

This package is a valuable financial tool for everyone who has a mortgage, is thinking of getting one, or is involved in financial planning for others. It can help you sort out the real effect on your budget of the confusing array of loans available these days. And it offers sound, practical advice that counters some of the conventional wisdom on carrying debt.

—LISA KLEINHOLZ

SOFTWARE QUICK TAKES: UTILITIES

TITLE/PUBLISHER PRICE/VERSION	SUMMARY	SYSTEM REQUIREMENTS	RATINGS O D EH EU S
HQ TEK Microsystems, Inc. 1 North Ave. Burlington, MA 01803 (617) 270-0808 \$79 v1.1	A consistent user-interface among the eight modules in this memory-resident "desktop manager" helped me be more productive. Includes appointment book, calculator, note pad, index-card-style filer, phone book, keyboard macro editor, password protection, and a DOS shell. Easy to customize to suit your needs and hardware limitations. — <i>Joey Latimer</i>	256K IBM PC, PS/2. Two drives (hard-disk drive recommended). DOS 2.1 or higher. 5.25-inch or 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
Symantec Utilities for Macintosh (SUM) Symantec Corp. 10201 Torre Ave. Cupertino, CA 95014 (408) 253-9600 \$100 v1.0	Several utilities unified by an easy-to-use interface make SUM an indispensable addition to my system. Protects my hard disk against crashes and helps me recover data if it does (it saved my neck when some vital data became scrambled). Also optimizes files on any disk, creates separate volumes on a hard disk, diagnoses disk problems, and more. Highly recommended. — <i>David Hallerman</i>	512Ke Macintosh. Two drives (hard-disk drive recommended). System 4.0 or higher.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
Take Charge! Departmental Technologies 13 Kilroy Rd. Newton, NJ 07860 (201) 786-6878 \$140 v1.2	The diversity of this memory-resident utility lets you run programs off a menu; copy, move, or delete files; set up a Rolodex-like database; autodial any phone number; log on-line; take notes; calculate figures; and more. It could be more elegant, but it's a very good value, especially for experienced users. — <i>Brooks Hunt</i>	320K IBM PC, PS/2. Hard-disk drive recommended. Modem (for autodial and communications modules). Color monitor optional. 5.25-inch or 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
XTree Pro Executive Systems, Inc. 4330 Santa Fe Rd. San Luis Obispo, CA 93401 (800) 634-5545 (800) 551-3353 (in CA) \$129 v1.0	Hard-disk housekeeping is simplified with this updated utility that helps free up disk space, put files where they belong, and back-up crucial files onto floppies. I can even change files with the built-in text editor. I just wish I could move a file in one step (two are needed: copy and delete) and that the program weren't so expensive. — <i>Steve Morgenstern</i>	256K IBM PC, PS/2. Hard-disk drive. DOS 2.1 or higher. 5.25-inch or 3.5-inch.	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

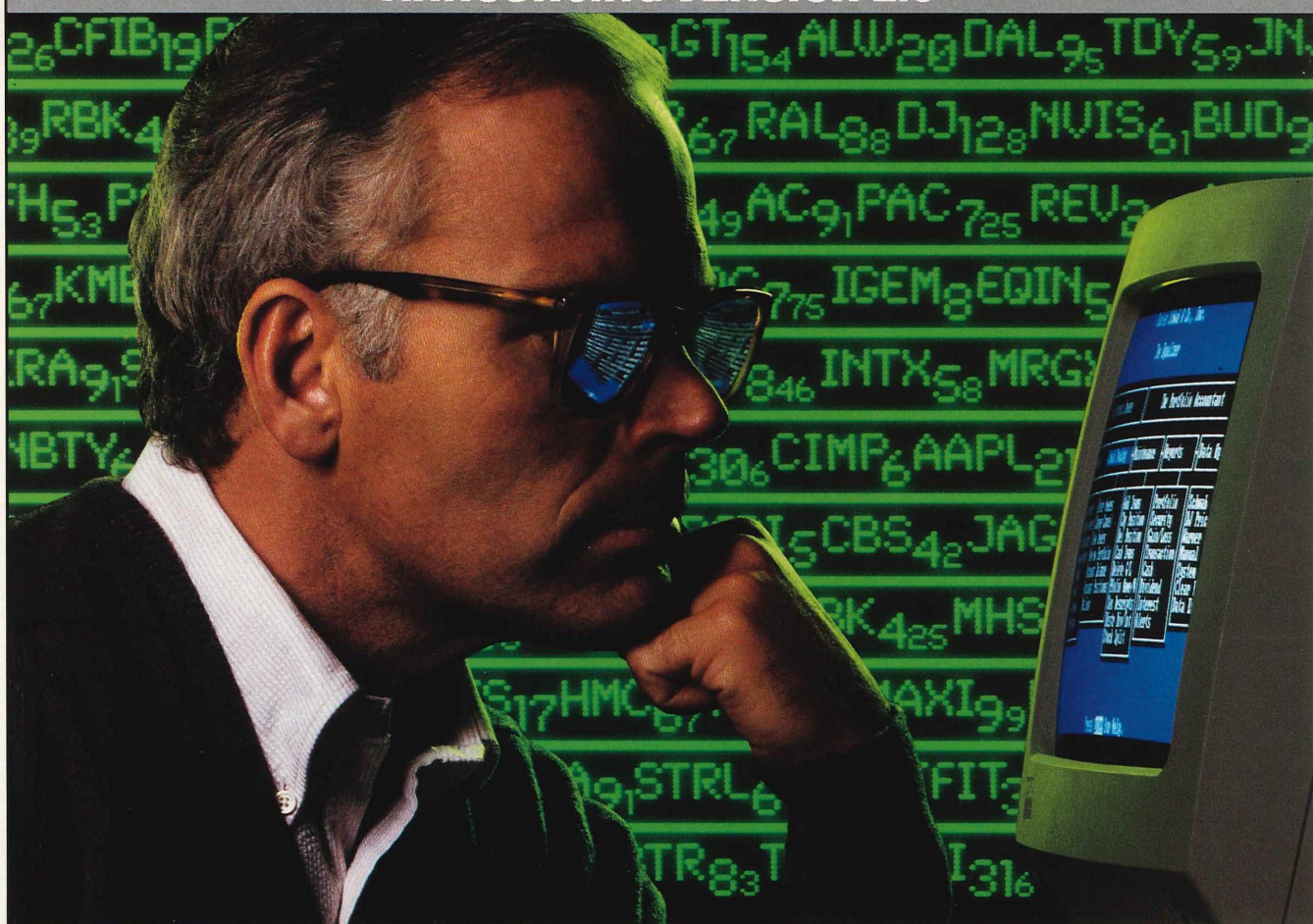
Ratings Key: O Overall Performance; D Documentation; EH Error-Handling; EU Ease of Use; S Support; ○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★ Excellent



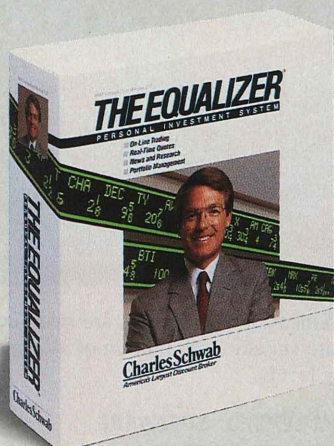
These best-seller lists, prepared exclusively for HOME-OFFICE COMPUTING by Egghead Discount Software, are based on November sales at 151 Egghead stores around the United States.

I B M	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	I B M
	<ol style="list-style-type: none"> 1. Lotus 1-2-3 v2.01 <i>Lotus Development Corp.</i> 2. WordPerfect v5.0 & v4.2 <i>WordPerfect Corp.</i> 3. dBase IV & III + <i>Ashton-Tate</i> 4. Windows/286 v2.10 <i>Microsoft Corp.</i> 5. Word v4.0 <i>Microsoft Corp.</i> 6. Turbo C v2.0 <i>Borland International</i> 7. Sideways v3.2 <i>Funk Software</i> 8. Freelance Plus <i>Lotus Development Corp.</i> 9. Turbo Pascal v5.0 <i>Borland International</i> 10. First Publisher v2.0 <i>Software Publishing Corp.</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Quicken v2.1 <i>Intuit</i> 3. PrintMaster Plus Bonus Pack <i>Unison World</i> 4. Calendar Creator Plus <i>Channelmark Corp.</i> 5. Managing Your Money v4.0 <i>MECA</i> 6. Address Book Plus, Sr. <i>Channelmark Corp.</i> 7. Micro Cookbook <i>Pinpoint Publishing</i> 8. Print Magic <i>Epyx</i> 9. Nerd Perfect <i>VaporSoft</i> 10. First Publisher Art Gallery <i>Software Publishing Corp.</i> 	<ol style="list-style-type: none"> 1. Where in the USA Is Carmen Sandiego? <i>Broderbund Software</i> 2. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 3. Reader Rabbit <i>The Learning Company</i> 4. Math Blaster Plus <i>Davidson & Associates</i> 5. Think Quick <i>The Learning Company</i> 6. Learning DOS v1.01 <i>Microsoft Corp.</i> 7. Math Rabbit <i>The Learning Company</i> 8. Magic Spells <i>The Learning Company</i> 9. Reading and Me <i>Davidson & Associates</i> 10. Writer Rabbit <i>The Learning Company</i> 	<ol style="list-style-type: none"> 1. Flight Simulator v3.0 <i>Microsoft Corp.</i> 2. Grand Prix Circuit <i>Accolade</i> 3. T.V. Game Shows <i>ShareData</i> 4. Jack Nicklaus Golf <i>Accolade</i> 5. Test Drive <i>Accolade</i> 6. Hardball <i>Accolade</i> 7. Paperboy <i>Mindscape</i> 8. Ultima V: Warriors of Destiny <i>Origin Systems/Broderbund</i> 9. 4th & Inches <i>Accolade</i> 10. Scrabble <i>Leisure Genius/EA</i> 	
	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	
M A C I N T O S H	<ol style="list-style-type: none"> 1. Word v3.01-v3.02 <i>Microsoft Corp.</i> 2. Tops v2.0 <i>Tops, Inc.</i> 3. Excel v1.5 <i>Microsoft Corp.</i> 4. MacDraw II <i>Claris Corp.</i> 5. Suitcase II v1.2 <i>Fifth Generation Systems</i> 6. S.U.M. <i>Symantec Corp.</i> 7. PageMaker v3.0 <i>Aldus Corp.</i> 8. Timbuktu <i>Farallon Computing</i> 9. PowerPoint v2.0 <i>Microsoft Corp.</i> 10. FileMaker II <i>Claris Corp.</i> 	<ol style="list-style-type: none"> 1. Quicken v1.0 <i>Intuit</i> 2. The Print Shop <i>Broderbund Software</i> 3. Dinner at Eight <i>Rubicon</i> 4. WetPaint/Vol. 1 & 2 <i>Dubl-Click Software</i> 5. Works of Art Laser Art <i>Springboard</i> 6. Top Honors v1.0 <i>Springboard</i> 7. Poster Maker Plus <i>Broderbund Software</i> 8. Mac Money v3.0 <i>Survivor Software Ltd.</i> 9. Images v1.0 <i>3G Graphics</i> 10. World Class Fonts!/Vol. 1 & 2 <i>Dubl-Click Software</i> 	<ol style="list-style-type: none"> 1. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 2. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 3. Manhole <i>Mediagenic</i> 4. Reader Rabbit <i>The Learning Company</i> 5. Type! <i>Broderbund Software</i> 6. Math Blaster! <i>Davidson & Associates</i> 7. HyperTutor <i>Channelmark Corp.</i> 8. Once Upon a Time . . . <i>Compu-Teach</i> 9. Typing Tutor IV <i>Simon & Schuster</i> 10. Kids Time <i>Great Wave Software</i> 	<ol style="list-style-type: none"> 1. Falcon v2.0 <i>Spectrum HoloByte</i> 2. Colony <i>Mindscape</i> 3. Flight Simulator v1.02 <i>Microsoft Corp.</i> 4. Quarterstaff <i>Infocom</i> 5. Beyond Dark Castle <i>Silicon Beach Software</i> 6. The Toy Shop <i>Broderbund Software</i> 7. Shufflepuck Cafe <i>Broderbund Software</i> 8. Leisure Suit Larry <i>Sierra On-Line</i> 9. Tetris <i>Spectrum HoloByte</i> 10. Dark Castle <i>Silicon Beach Software</i> 	M A C I N T O S H
	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	
	<ol style="list-style-type: none"> 1. Copy II Plus <i>Central Point Software</i> 2. AppleWorks GS <i>Claris Corp.</i> 3. AppleWorks v2.0 <i>Claris Corp.</i> 4. TimeOut QuickSpell <i>Beagle Brothers</i> 5. List & Mail <i>Avery</i> 6. TimeOut Thesaurus <i>Beagle Brothers</i> 7. WordPerfect v1.1 & v2.0 <i>WordPerfect Corp.</i> 8. TimeOut SuperFonts <i>Beagle Brothers</i> 9. Sideways v2.0 <i>Funk Software</i> 10. Dac Easy Accounting <i>Dac Software</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Bank Street Writer Plus <i>Broderbund Software</i> 3. Quicken <i>Intuit</i> 4. The Print Shop Party Graphics <i>Broderbund Software</i> 5. Print Magic <i>Epyx</i> 6. The Print Shop Holiday Graphics <i>Broderbund Software</i> 7. The Print Shop Sampler Graphics <i>Broderbund Software</i> 8. MultiScribe v3.0 <i>StyleWare</i> 9. Holidays & Seasons <i>Polarware Software</i> 10. The Print Shop Companion <i>Broderbund Software</i> 	<ol style="list-style-type: none"> 1. Think Quick <i>The Learning Company</i> 2. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 3. Where in the USA Is Carmen Sandiego? <i>Broderbund Software</i> 4. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 5. Reader Rabbit <i>The Learning Company</i> 6. Math Blaster Plus <i>Davidson & Associates</i> 7. Mixed-Up Mother Goose <i>Sierra On-Line</i> 8. Math Rabbit <i>The Learning Company</i> 9. Writer Rabbit <i>The Learning Company</i> 10. Where in Europe Is Carmen Sandiego? <i>Broderbund Software</i> 	<ol style="list-style-type: none"> 1. Wings of Fury <i>Broderbund Software</i> 2. The Toy Shop <i>Broderbund Software</i> 3. Hardball <i>Accolade</i> 4. California Games <i>Epyx</i> 5. Test Drive <i>Accolade</i> 6. Skate or Die <i>Electronic Arts</i> 7. Paperboy <i>Mindscape</i> 8. Marble Madness <i>Electronic Arts</i> 9. Ultima V: Warriors of Destiny <i>Origin Systems/Broderbund</i> 10. Monte Carlo <i>PBI Software</i> 	A P P L E
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	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	

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Look What I Did!

*Software That Produces Tangible Output
Can Help Learning-Disabled Children
Take Pride in Their Work*

BY MIRIAM FURST

"I can't do anything."
"My paper's a mess!"
"It's no good."

Parents of learning-disabled children hear these painful words all too often.

LD children are puzzling. They have at least average intelligence, but they have weaknesses that often drastically interfere with their learning. Carl can carry on a delightful conversation but can't read the simplest words. Monica can read well but has severe spelling problems. Pat reasons well but when he tries to write a short report, words are missing, letters are shaped incorrectly, and punctuation errors abound.

The list goes on, and the symptoms differ from child to child, but most LD children have two things in common—low self-esteem and a feeling of helplessness. For them, learning is frustrating and discouraging. It's no wonder they often feel like giving up.

Parents and teachers continually search for ways to help LD children feel better about themselves and inspire them to keep trying. One way of providing encouragement is to create situations that will give children tangible proof of success and help the child create something that he or she can see, touch, and share with others. This is where computers come in. Software that cranks out polished pictures and neat text can help boost confidence and reduce frustration. As Crystal, an LD second grader proudly states: "I think better with computers. I show things to Mom and Dad and teachers. It makes me proud of myself."

Anne Sandell, a teacher of LD children in the Tucson Unified School District in Tucson, Arizona, says many computer programs "encourage inventiveness and give children a way of expressing themselves. With paper and pencil," she says, "they can erase their lives away. No matter how hard they labor, their finished products don't look finished.

MIRIAM FURST teaches in the Tucson Unified School District in Tucson, Arizona. She lectures nationally and conducts workshops on the use of computers in special education. She writes an LD software-review column for *Closing The Gap*.



With a computer, they press a delete key and their errors are gone. Because of this, children are willing to edit and re-edit. Using computers is a pleasurable experience that produces a product they can be proud of."

Sandell's comments bring up an interesting distinction—the difference between the act of writing and the act of planning and creating a story or other product. Thanks to computers, children who have problems with pencil-and-paper tasks are now able to express their thoughts in written form.

Listed below are programs that let children (with or without learning disabilities) create and print pictures, cartoons, games, and sto-

ries. Since these programs are open-ended, they are suitable for children of all ages and ability levels.

RECOMMENDED SOFTWARE

Bank Street Writer III (Scholastic). This is a sophisticated word processor with extra features—a spelling checker and thesaurus. Because there are so many options, the program may seem overwhelming at first. Take it one step at a time. Read the student guide section with your child and help him or her learn a few basic commands such as INSERT, DELETE, and SAVE. Introduce other commands a few at a time, as the need arises. You'll

ILLUSTRATION BY WICKI SMITH

Aussie JOKER POKER

\$200,000 JACKPOT

The latest multi-player multi-format PC game from Australia is different to all forms of Poker.

Aussie JOKER POKER features 90 player capacity, open-ended discard ability, selectable deck size and hands per player, password controlled gambling system with automatic accounts — and 5 free entry forms for the \$200,000 Aussie JOKER POKER Contest.

Each month December 1988 through April 1989 winners of 240 JOKER SOFTWARE games and 4 finalists will be randomly drawn from all entries received that month.

With a guest, the 20 Finalists will be flown to Las Vegas to play Aussie JOKER POKER for a first prize of \$100,000 in cash at the Golden Nugget.

1,220 Prizes Value \$200,000

1,200 Joker PC software games at \$29.95 to \$49.95 dependent on disk format. Game prizes at sole discretion of sponsor.

\$60,000

Cash Prizes for Aussie JOKER POKER Contest Grand Final:

Highest Scorer: \$100,000

Second Highest Scorer: \$5,000

Third Highest Scorer: \$2,500

Lowest Scorer: \$1,500

16 Consolation Prizes of \$1,000 each to eliminated Finalists \$16,000

Prize includes air travel for Finalists and their guests from the major airport to Las Vegas with two days and two nights accommodation at the Golden Nugget (approx. retail value \$750 each subject to departure points). \$15,000

All taxes and other expenses not specified herein are sole responsibility of winners. All winners will be notified in writing.



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AMIGA™

Aussie JOKER POKER is available for SIX major PC's

If your PC has a mouse or keyboard, a mono or color monitor and a 512K minimum ram (except Apple II and C64/128 use 64K and keyboard only) you and your family can practise at home for the Las Vegas final of the Aussie JOKER POKER contest.

Suggested retail prices:

IBM & compatibles (CGA Board required) **\$39.95**

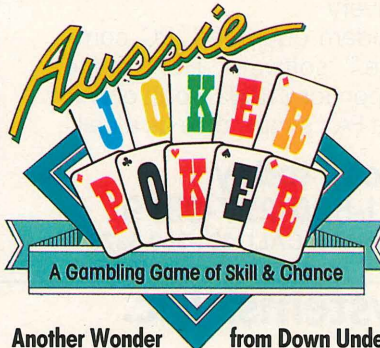
Amiga & Atari ST **\$49.95**

Macintosh (mono only) **\$49.95**

Apple II **\$39.95**

C64/128 **\$29.95**

If ordering by telephone add \$3 shipping & handling and check that your PC meets the minimum hardware requirements as no cash refunds apply. Warranty is limited to free replacement of faulty products returned by prepaid post.



Another Wonder

from Down Under



Aussie JOKER POKER Contest Rules

1. No purchase necessary to enter.
2. Void where prohibited by state or federal law.
3. To enter, simply complete and return the the official entry form.
4. Limit five entries per family or household. Five free entry forms and full contest rules are included with "Aussie Joker Poker" or may be obtained by sending a stamped self-addressed envelope larger than 5½" x 7½" with a hand written request to: Aussie Joker Poker Contest Entry Forms, P.O. Box 22381, Gilroy, CA 95021-2381. Mail in requests limited to one per name, household or family and must be received no later than 3/31/89. WA & VT residents need not include return postage. Full rules also available from participating Mindscape retailers.
5. Monthly entries must be received no later than the last day of the month in which a drawing will take place in order to participate in the month's drawing. Drawings will be held from December, 1988 through April 1989, inclusive. Final entries must be received by 4/30/89.
6. Contest open to legal residents of the U.S.A. and Canada (other than Quebec).
7. Odds of winning depend on number of eligible entries received.
8. Contest subject to complete official rules.

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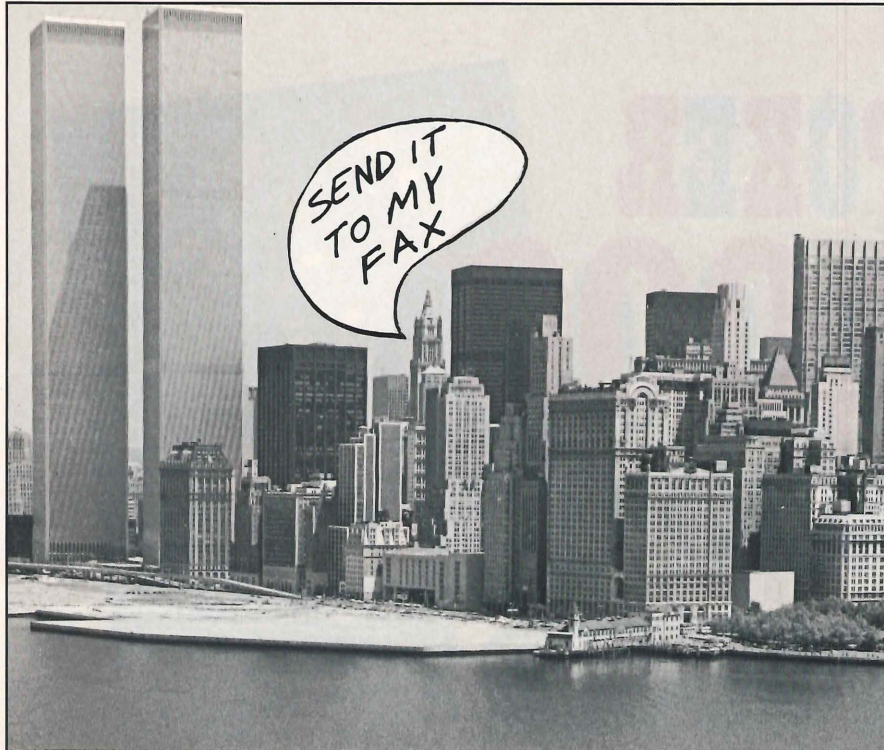
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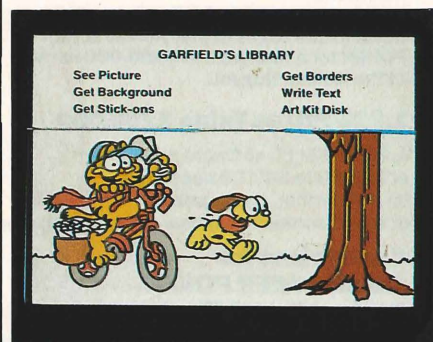
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probably get hooked on this program yourself. (128K Apple, 128K IBM PC jr., 256K IBM PC; \$80. Ages 7–adult.)

Create With Garfield (DLM). Both the Regular and the Deluxe Edition are sure to be hits. Kids design cartoons by combining pictures of Garfield and his friends with dozens of props ranging from food to furniture. They can also add narration to the cartoons. The program is easy to use and produces professional-looking pictures that can be printed as small cartoons or as big posters.

I've used this program with more than a hundred children and their reactions are similar—fascination, amusement, desire to show their work to others, and thus motivation to edit and re-edit their work until it is ready to display.

The Deluxe Edition comes with two disks and many pictures and text options. It also includes an activity booklet with 100 ideas for using the program. (64K Apple, C 64, 256K IBM PC and compatibles; Regular Edition \$30, Deluxe Edition \$40. Ages 8–adult.)



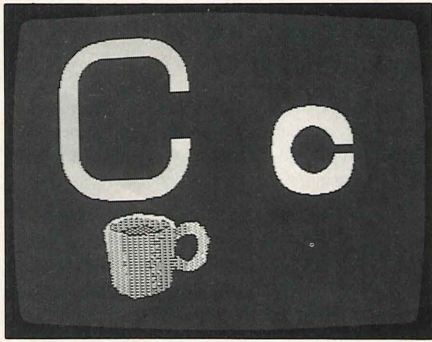
Impressive and amusing results are a snap with the lovable Garfield and friends.

Crossword Magic (Mindscape). There are many ways to use this crossword puzzle generator. Children can create puzzles using recently learned spelling words, science facts, or any other topic of interest. They can even interview friends and relatives and use the collected information to make a puzzle. (64K Apple, 64K Atari, C 64, 128K IBM PC, 512K Macintosh; \$30–\$50. Ages 8–adult.)

Dr. Peet's Talk/Writer (Hartley). *Dr. Peet's* is a simple talking word processor for young children. Letters and words are read aloud as they are typed, and children can later listen to their completed stories. It's extremely easy to use, has extra large print and a speech-correction feature, and includes games with speech that teach children to recognize letters and find them on the keyboard.

Special education resource teacher Ruth Coykendall of Tucson, Arizona, says, "*Dr. Peet's* is particularly effective with children who are strong in visual skills and weak in

FAMILY COMPUTING



Dr. Peet's helps kids learn the pronunciation of letters and words.

listening and attention skills. Because it combines two modalities (visual and auditory), it helps focus attention and helps visual learners use their areas of strength to improve weaker process areas."

The word-processing capability is limited. Files are restricted to three pages, and the only text-handling features are INSERT and DELETE. For most beginning writers, this is enough. (64K Apple II; \$70. ECHO speech synthesizer required. Ages 5-9.)

Explore-a-Science Series and **Explore-a-Story Series** (D.C. Heath and Co./William K. Bradford Publishing Co.).

Each title in the *Explore-a-Science* and *Explore-a-Story* series comes with a story both in book form and on a disk. The fun comes when children change the scenes by adding, shifting, or removing objects. They can also change backgrounds, label objects from a menu of words, add their own words, or create original scenes. The animation is terrific: Frogs leap, insects hover, fish swim through ponds, and colorful hot-air balloons float across the sky.

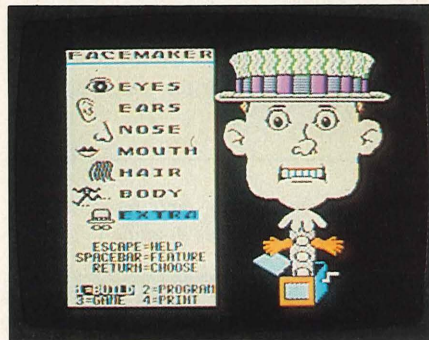
With the stacking function, kids can make surprise scenes in which objects or words are hidden behind each other and then uncovered one at a time.

The screens may be too detailed for some LD kids, but are easily simplified and tailored to any level by deleting almost any of the objects. Although the keyboard commands are complicated and may require extra effort, the results are well worth it.

I've seen five of the programs, including "The Bald-Headed Chicken," "The Best Bubble-Blower," and "The Quasar Kids," and each story is clever and well written. Science topics include dinosaurs, wolves, whales, the desert, and the weather. (128K Apple; \$40 each for home version. Color monitor recommended. Ages 5-13.)

Facemaker Golden Edition (Spinnaker). I dare you to use *Facemaker* and not burst out laughing. Children make faces one feature at a time and then animate them: Ears wiggle, mouths grin, eyes wink, and tongues stick

out. Children can also write short stories about their pictures. *Facemaker* was designed for young children, but I've never met a kid of any age who didn't love it. Not only is *Facemaker* amusing but it encourages children to express and discuss their feelings. One drawback—you cannot save completed pictures and stories. It doesn't take long to print pictures, but a save feature would be helpful. (64K Apple, 256K IBM PC; \$40. Ages 3-8.)



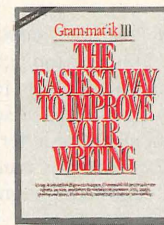
Kids can make a silly figure or a face that fits their mood with *Facemaker*.

Kidwriter (Spinnaker). With this extremely easy-to-use program, children make simple pictures and write short stories to accompany them. Computer support teacher Susan Bakersipe of Tucson, Arizona, says, "LD children often have a hard time thinking of what to write about. With *Kidwriter*, I ask them to draw a picture and then to tell me about it. When they look at the pictures, children can visualize their story better, and that helps them put it into words." Bakersipe also likes that the pictures and stories print out quickly, giving the children almost immediate feedback. It also helps children conceptualize the ideas of size, proportion, and direction. (256K Apple IIe/IIfx, C 64, 256K IBM PC; \$27-\$40. Ages 6-10.)

Print Your Own Bingo Plus (Hartley). Spaces in the individualized bingo game cards can be filled with single letters, spelling words, math facts, answers to history questions, or whatever subject you want your child to learn. Eleven-year-old Sam says, "It makes learning the words fun." Each printed bingo card has a different layout and master lists of each file are easily printed. (48K Apple; \$60. All ages.)

Talking Text Writer (Scholastic). This complete word processor with sound is equipped with most of the usual text-handling features, such as text moving and retrieval, as well as many excellent speech features. Kids can hear individual words, lines, or complete files. *Talking Text Writer* is considerably harder to operate than *Dr. Peet's*, but it also does a lot more. (128K Apple with ECHO

Write More Better Or Your Money Back.



Grammatik III is the guaranteed way to eliminate "more" writing errors. It's IBM PC software that improves your

writing fast... as you use it.

Grammatik III uses Artificial Intelligence to proofread your writing for errors in grammar, style, punctuation, usage, and spelling. As it checks, it shows suspect problems in context, right on your screen. Then, it offers suggestions for improvement and lets you revise your document immediately, without going back to your word processor. It's really that easy. Grammatik III is a simple, yet incredibly effective way to improve your writing.

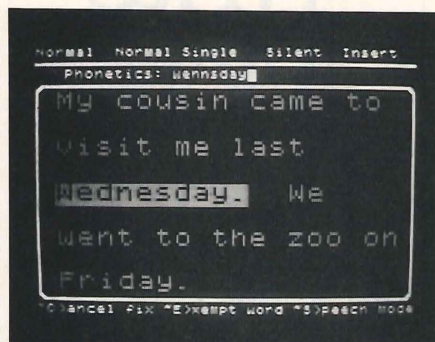
Memos, letters, reports... everything you write WILL be clearer and more concise or your money back.* Call for complete info. Or, order Grammatik III now for only \$99.00 and write better right away. Guaranteed.

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Gram·mat·ik III™
Powerful Writing Improvement

*Try Grammatik III risk-free. If not completely satisfied, return it within 30 days for a full refund. Network Edition (for up to five users)—\$189. Grammatik is a trademark of Wang Laboratories, Inc. © 1989 Reference Software, Inc., 330 Townsend St., Suite 123, San Francisco, CA 94107

speech board, \$250; 256K IBM PC with ECHO speech board, \$280. Ages 5-12.)



Children can listen to their own stories with Talking Text Writer.

Teddy Bear-rels of Fun (DLM). This program is like a teddy-bear version of *Create With Garfield*. One particularly irresistible added feature—children can dress the bears in a variety of costumes, including bathing suits, earmuffs, party dresses, pajamas, hats, and shoes. (64K Apple, C 64; \$40. Ages 6-adult.)

The Children's Writing and Publishing Center (The Learning Company). This desktop publishing program designed specifically for children, is basically easy to use, yet a sophisticated tool for producing newsletters, reports, or stories. The *Publishing Center* provides a choice of fonts, combines pictures

RESOURCES

For more information about learning disabilities:

Association for Children and Adults with Learning Disabilities (ACLD), 4156 Library Rd., Pittsburgh, PA 15234. ACLD is an organization of parents and professionals dedicated to "defining and finding solutions for the broad spectrum of learning disabilities." ACLD has 50 state affiliates and more than 800 local chapters.

Closing the Gap (CTG), P.O. Box 68, Henderson, MN 56044; (612) 248-3294. CTG provides information related to technology and special education. It publishes a bi-monthly newspaper, *Closing The Gap*, and an annual resource guide. It operates a database service and offers workshops throughout the country.

Special Magic: Computers, Classroom Strategies, and Exceptional Students by Mary Male. Mayfield Publishing Company, 1988; 1240 Villa St., Mountain View, CA 94041; \$23. This book discusses new ways to use software with special education students. It's written for teachers, but parents can also find some useful ideas.

Features to Look for When Choosing Product-Producing Software

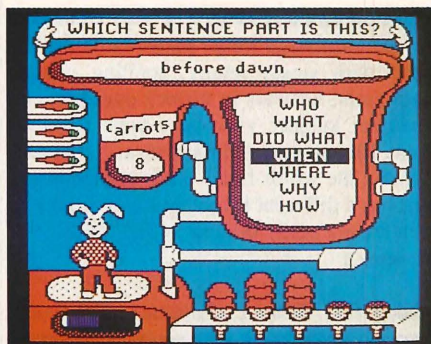
1. An uncluttered, nondistracting screen display. A busy screen display may confuse children with visual perception problems, causing them to have trouble concentrating on the task at hand.
2. Clear, easy-to-read text. Since many LD children have reading difficulties to begin with, unclear text compounds their problems. It is important that characters be as legible as possible.
3. Clear printouts. For the reason stated in number 2.
4. Editing capability. Many LD children have difficulty with spelling, grammar, and punctuation. Easy-to-use editing features allow children to revise their work as often as necessary.
5. A save feature. This is extremely important. LD children often need ample time to plan their creations and organize their thoughts. Consequently, they may need multiple sessions to complete a project. They should be able to stop, save their work, and return to it as often as needed.
6. A user's manual containing interesting activities and projects related to the software.

and text, wraps words, and more. (128K Apple II/IIGS; \$60. Ages 9-adult.)



Anyone can create great looking signs, cards, and banners with The Print Shop.

The Print Shop (Broderbund). With this classic, kids can design and print posters, cards, and banners for any occasion. It's a great opportunity for LD kids to be creative and make a polished product. (64K Apple, 512K Apple IIGS, 48K Atari, C 64, 128K IBM PC, 512K Macintosh; \$45-\$60. Ages 5-adult.)



Writer Rabbit teaches correct grammar as kids construct fill-in-the-blank stories.

Writer Rabbit (The Learning Company). This program contains excellent games that teach sentence structure. One of the games, "Silly Story Party," lets kids write and print dozens

of fill-in-the-blank stories. They can complete stories with funny (and grammatically correct) phrases supplied by the computer or type in their own words. Depending on how the program is used, results can range from serious to absolutely hilarious. Immediately after completing a "silly story," Matthew, a fifth-grade LD student, proudly said, "I'm gonna show this to my friends and my class." Maria, a fourth grader, said, "My grandma will like it." When I asked her what she thought her grandmother would like about it, Maria grinned and answered, "She'll be happy simply because I made it." (64K Apple II, 256K IBM PC; \$50. Ages 7-10.)

EXHIBIT YOUR CHILD'S MASTERPIECES

An important step is to review the final product, whether it be a story, game, or picture, with your child. If it is a story, he or she should be able to read it without help. With pictures, encourage your child to finish the project with color or other decorations. Then start advertising: Let kids take their productions to school and share them with teachers and friends, send copies to relatives, and display them throughout the house. You might even turn one wall of your child's room into a huge bulletin board for his or her work. Make scrapbooks. Surround your child with work of which he or she can be proud. ■

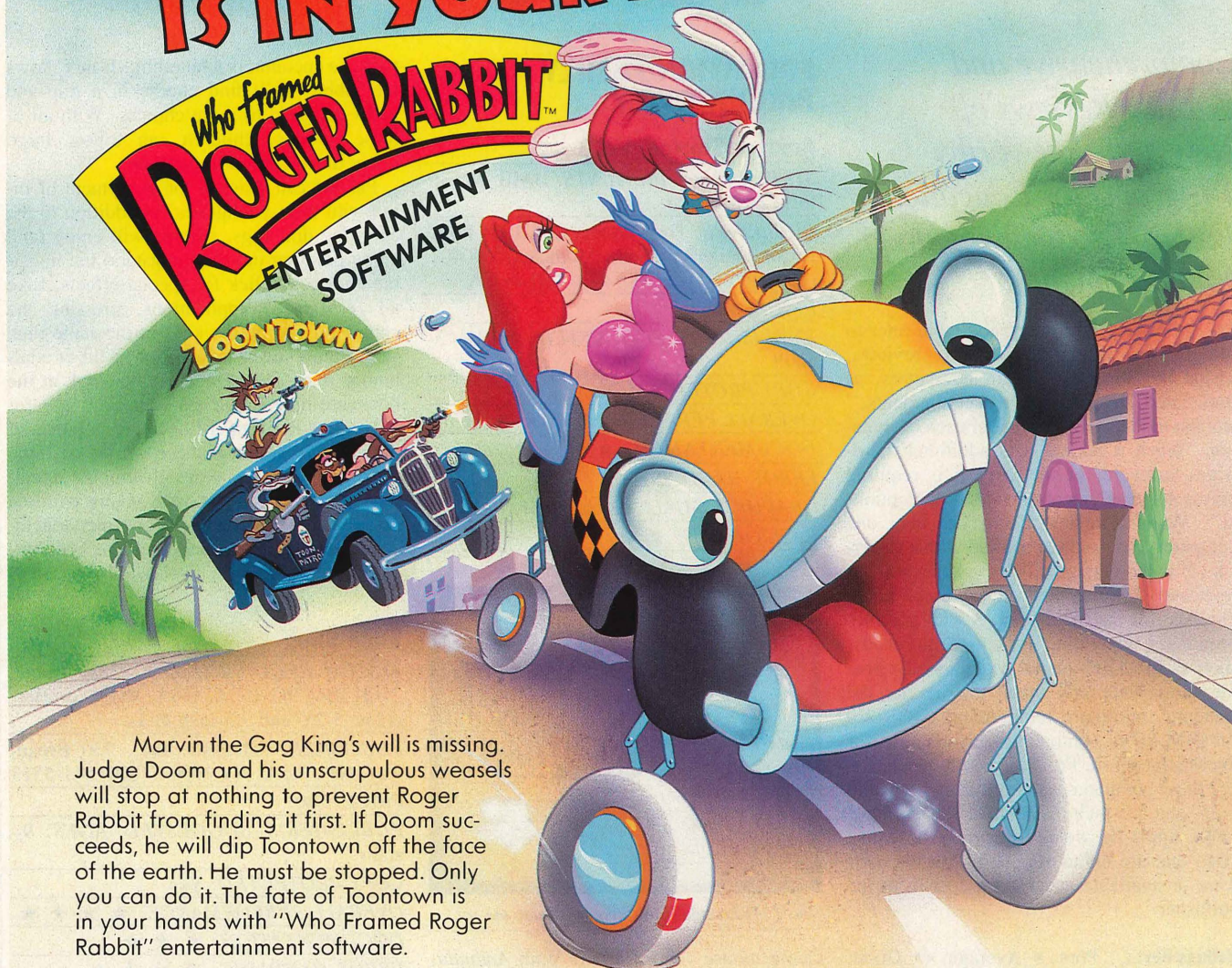
Manufacturers' Phone Numbers

Broderbund Software (800) 527-6263
D.C. Heath and Co./William K. Bradford Publishing Co. (800) 421-2009
DLM Inc. (800) 527-4747
Hartley Courseware (800) 247-1380
Mindscape Inc. (800) 221-9884
Scholastic Inc. (800) 541-5513
Spinnaker Software Corp. (800) 826-0706
Street Electronics Corp. (ECHO Speech Synthesizers) (805) 684-4593
The Learning Company (800) 852-2255

THE FATE OF TOONTOWN IS IN YOUR HANDS!

Who Framed **ROGER RABBIT** ENTERTAINMENT SOFTWARE

TOONTOWN



Marvin the Gag King's will is missing. Judge Doom and his unscrupulous weasels will stop at nothing to prevent Roger Rabbit from finding it first. If Doom succeeds, he will dip Toontown off the face of the earth. He must be stopped. Only you can do it. The fate of Toontown is in your hands with "Who Framed Roger Rabbit" entertainment software.

It's a fast-paced, action-packed adventure that's **more** than an arcade game. Stunning graphics, high quality animation and sound effects put you "in Toon" with Toontown's fate.

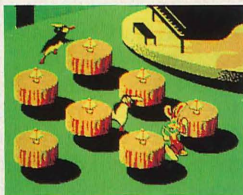
Can you defeat Judge Doom? Are you going to let him get away with this? It's up to you. And remember, Toons are idiotic—but they're not stupid!

Ask for "Who Framed Roger Rabbit" at a software dealer near you. The future of Toontown depends on it!

Now available
for Apple® II
Series and IBM
PC and 100%
Compatibles



Actual Amiga Screen



Actual IBM Screen



Actual Commodore Screen

Also available for:
Amiga and Com-
modore 64/128

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BV BUENA VISTA
SOFTWARE

CIRCLE READER SERVICE 64

Software for Learning and Leisure

Comprehensive and Capsule Reviews of New and Noteworthy Programs for Education, Family Productivity, and Entertainment

The following ratings key and table refer to full as well as capsule software reviews. Listed are various types of computers, as designated under "System Requirements," and the models included under each designation. When a review lists additional hardware, software, or memory, it is required unless noted as "recommended" or "optional." When a review lists more than one computer, the machine marked with an asterisk (*) is the one on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with graphics programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.

Designation	Models
512K Amiga	500, 1000, 2000
48K Apple	II/II Plus/IIe/IIc/IIGs (in IIe/c mode)
64K Apple	II Plus/IIe/IIc/IIGs (in IIe/c mode)
128K Apple	IIe/IIc/IIGs (in IIe/c mode)
128Ke Apple	IIe (enhanced ROM)/IIc/IIGs (in IIe/c mode)
Apple IIGs	IIGs only
48K Atari	800/600XL/800XL/65XE/130XE
512K Atari ST	520ST/1040ST/Mega ST
C 64	C 64, C 128 (in C 64 mode)
IBM PC	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

EDUCATION/FAMILY PRODUCTIVITY

AmandaStories, Vol.1

SYSTEM REQUIREMENTS: 1MB Macintosh; HyperCard

PUBLISHER: The Voyager Co., 1351 Pacific Coast Highway, Santa Monica, CA 90401; (800) 446-2001; (800) 443-2001 in CA

PRICE: \$20

PUBLISHER'S SUGGESTED AGES: 3-adult

COPY PROTECTED: No

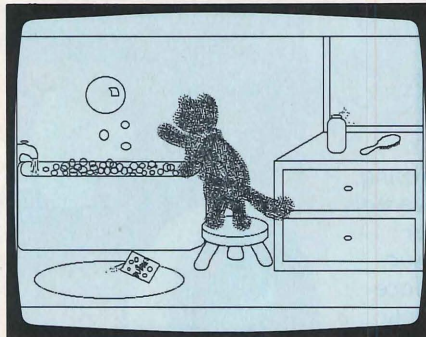
OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR-HANDLING: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★ ★ ★ ★



Vol. 1 of AmandaStories features Inigo the cat.

Can a mouse control a cat? With *AmandaStories, Volume 1* for the Macintosh, it can. These stories for ages 3 and up are no cat and mouse games, however; they are delightful learning experiences. They run on *HyperCard*, contain no words, and leave the creativity to the child.

Written by Amanda Goodenough and Dan Winkler, the stories chronicle the adventures of Inigo, the black cat. Children click on an icon to select "Inigo Gets Out," "Inigo's Snack," "Inigo Takes A Bath," or "Inigo's Dream." Then they begin. Each click on the mouse button moves the story along from screen to screen. Children determine the sequence of events by the choice of where they click.

For example, in "Inigo Gets Out," Inigo can follow a path, climb a tree, walk through some leaves, or just soak up the sun's rays. If he (she, if your child prefers) follows the

path, he encounters a fat rabbit. If he follows the rabbit, he'll find cheese in a trap and paths that lead to more choices. With all of these options, children can follow Inigo many times without repetition.

Parents can share in the enjoyment of Inigo with their youngsters. In addition to the cute line drawings, parents will enjoy (and enjoy pointing out to youngsters) the invisible buttons to click for special effects. Like all *HyperCard* applications, pressing the command and option keys at the same time shows these areas. In addition, a bit of adult humor is present. For example, look at the bookcase titles in "Inigo's Snack."

I'm looking forward to future volumes of *AmandaStories* since these stories of Inigo may well become classics of computer literature. For every parent with young children and a Macintosh, reading about Inigo together is a perfect way to share time, technology, and tenderness.

—GWEN SOLOMON

Slide Shop

SYSTEM REQUIREMENTS: 128K Apple, 256K IBM PC; CGA, EGA, VGA, or Hercules; 5.25- and 3.5-inch disks

PUBLISHER: Scholastic Inc., 730 Broadway, New York, NY 10003; (800) 541-5513

PRICE: \$70

PUBLISHER'S SUGGESTED AGES: 9-adult

COPY PROTECTED: Yes

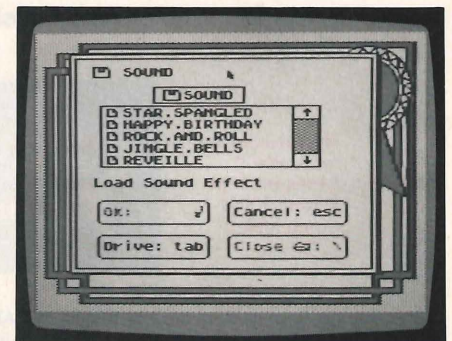
OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR-HANDLING: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★



Slide Shop lets you add sound effects to your slides presentations or greeting cards.

CAPSULE REVIEWS

EDUCATION/FAMILY PRODUCTIVITY

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS					
			CP	O	D	EH	GQ	EU
BabyCare Know-Ware Inc. 119 14th St. NW Suite 400 Calgary, Alberta T2N 126 (403) 283-7710 \$37.50 (\$50 in Canada)	No book, cassette tape, or software will ever change a diaper for you, but <i>BabyCare</i> provides some quick and useful information on bringing up baby. Menu manipulation is arduous and time consuming, and the graphics aren't as beneficial as they could be. Lacking in detail, <i>BabyCare</i> is no substitute for a comprehensive book on infant care. —Patty Giovenco	512K IBM PC. CGA, EGA, or Hercules. 5.25-inch disks.	Y	*	*	*	*	*
Explore-a-Story: Not Too Messy, Not Too Neat D.C. Health/William K. Bradford Publishing Co. 594 Marrett Rd. Lexington, MA 02173 (800) 421-2009 \$40	Children ages 9–11 create their own hare-raising tales featuring rabbits Tanya and Bonnie, who act like Felix and Oscar from "The Odd Couple." Ideas for stories can come from the included book <i>Not Too Messy, Not Too Neat</i> , the on-screen story-starters, or from your child's imagination. Once he or she has created enough text and illustrations with the supplied backgrounds, props, and characters, your child can print and assemble a book. —Gwen Solomon	128K Apple. 5.25- and 3.5-inch disks.	Y	*	*	*	*	*
The Movie Program Aisle Seat Software P.O. Box 1513 Concord, NH 03302-1513 (603) 224-0207 \$20; \$13 for yearly update.	If your family can't decide which movies to rent, this database of concise movie reviews could help. Select titles by category, critics' ratings, or box-office success, or sort the list alphabetically. A good reference that could save you time and money at the video store. —Rob Gilpin	256K IBM PC. 5.25- and 3.5-inch disks. Hard-disk drive recommended.	N	*	*	*	N/A	*

ENTERTAINMENT

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS					
			CP	O	D	PS	GQ	EU
Final Assault Epyx Inc. 600 Galveston Dr. Redwood City, CA 94063 (415) 366-0606 \$40–\$50	Select your route, pack your rucksack, and set out on your trek to the top. Although all the essentials of a mountaineering expedition are included, "the intensity and elation" touted on the game's package are not. However, <i>Final Assault</i> offers a good introduction to the basics of mountaineering. —Rob Gilpin	128K Apple, 512K Apple IIgs, C 64, 256K IBM PC*. CGA, EGA, VGA, or Hercules. 5.25- and 3.5-inch disks (IBM).	Y	*	*	*	*	*
Romance of the Three Kingdoms Koei Corp. 20000 Mariner Ave., Suite 100 Torrance, CA 90503 (213) 542-6444 \$70	You attempt to bring all of ancient China under your reign. In five different scenarios, you must use strategy and diplomacy to overcome the enemy. With an improved interface, tasteful animation, and increased depth of play, <i>Three Kingdoms</i> is a more satisfying war game than its predecessor, <i>Nobunaga's Ambition</i> . —Jeff Donahue	256K IBM PC. CGA, EGA. Two floppy drives or a hard-disk drive. 5.25- and 3.5-inch disks.	Y	*	*	*	*	*
Tracon Wesson International 1439 Circle Ridge Austin, TX 78746 (800) 634-9808 \$50	A realistic glimpse into the harrowing job of air-traffic control. Using a simulated radar screen, you must guide each aircraft in your sector to its destination as efficiently as possible, avoiding mid-air collisions. This requires constant attention and ingenuity. Variable scenarios challenge players of every level. —Steve Williams	256K IBM PC. CGA, EGA, VGA, or Hercules. Two floppy drives or a hard-disk drive. 5.25- and 3.5-inch disks.	N	*	*	*	*	*
Typhoon of Steel Strategic Simulations Inc. 1046 Rengstorff Ave. Mountain View, CA 94043 (415) 964-1353 \$50	One or two players choose between the Axis and Allied forces in these accurate re-creations of WWII battles. You can choose how many of your own forces you want to control (the computer will move the rest) and create your own scenarios. Helpful for developing strategic skills. —Greg Shakar	64K Apple*, 64K Apple IIgs, C 64.	N	*	*	*	*	*
Xian v2.0 Leong Jacobs Inc. 2729 Lury Ln. Annapolis, MD 21401 (301) 266-3660 \$35–\$36	A good opponent for a game of Chinese chess and an even better tutor. On-line help provides clear instructions for the game while nine playing levels challenge both beginning and advanced players. Unfortunately, the slow response time in the higher playing levels may dissuade you from becoming an expert. —Steven C.M. Chen	256K IBM PC. CGA, EGA, VGA, or Hercules. 5.25- or 3.5-inch disks.	Y	*	*	*	*	*

Ratings Key: CP Copy Protected, yes or no; O Overall Performance; D Documentation; EH Error-Handling; PS Play System; GQ Graphics Quality; EU Ease of Use; * Poor; * Average; ** Good; *** Very Good; **** Excellent; N/A Not Applicable; * Computer Used for Review

Flight notes

4A

✦ **Exploring Japan with Jet** - Now that Japan Scenery Disk is included with Jet, we'd like to offer some suggestions for exploring the Japanese countryside from the cockpit of your F-16.

First, a close-up view of Tokyo. Take off from Hyakuri Airport (North 18542, East 32874) and turn to a heading of 187 degrees. This flight path takes you into the peninsula forming the right boundary of Tokyo Bay (see Tokyo area chart). At Mach 1 this heading should bring you to New Tokyo International Airport at Narita in about five minutes. Turn right to a heading of 270 degrees at Narita to put yourself on a direct course to Tokyo. When Tokyo comes into view, throttle back to 45% and drop altitude to 1,000 feet to explore the city. Highlights including Tokyo Tower and the Emperor's Palace will be clearly visible, with many high-rise skyscrapers to the north. Head for Tokyo International Airport (Haneda) in the southwest part of the city. Make your approach and land at Tokyo International. Keep your airspeed low and don't overshoot the runway or you'll end up in Tokyo Bay! Next month - another Japanese adventure!

✦ **Submarine Action in the Pacific** - Unparalleled action and realism have rocketed Up Periscope! to the top of the software charts! You command a World War II fleet class submarine. Start with a shakedown cruise out of the Navy's New London shipyards, then re-enact fourteen different historic patrols covering all Pacific theatres of war. Relive the famous final patrol of USS Tang when Commander Dick O'Kane was sunk by one of his own torpedoes. Intercept convoys in the Formosa Straight with USS Barb. Evade depth charge attacks, or go hunting on your own. Mastering the complexities of command are difficult but very rewarding.

Top Selling Scenery Disks This Month:

(\$24.95 each, for use with Flight Simulator II, Stealth Mission, and Jet)

1. "Western European Tour" Scenery Disk
2. Scenery Disk # 7 (U.S. Eastern Seaboard)
3. Scenery Disk # 3 (U.S. South Pacific)
4. Scenery Disk # 11 (U.S. North Eastern Border)
5. San Francisco Scenery Disk

See your dealer to purchase SubLOGIC products, or call us direct to order by charge card at (800) 637-4983. Illinois residents call (217) 359-8482.

SubLOGIC Corporation
501 Kenyon Road
Champaign, IL 61820

Please address any feedback/correspondence regarding SubLOGIC products, operations, or this "Flight Notes" column to ATTN: Chairman's Office.

CIRCLE READER SERVICE 53

Commercially-made slides can cost \$30 or more each. However, for about the cost of two commercially-made slides, you can purchase *Slide Shop* and forget all of the hassle. With *Slide Shop* you can create on-screen text or graphics "slides," then merge them into video presentations. Both kids and adults can design greeting cards for friends and relatives, or enhance oral presentations with a screen show, for example. You can display the finished presentations on a computer or transfer them to video tape for more portable viewing. You can even mail disks containing presentations to others with compatible computers—the program disk isn't required when running a show.

Slide Shop presentations begin with individual slides, or screens. You can choose between two fonts for text screens, with four different styles and many colors available for each. Graphics screens can use five other fonts, some of them in multiple sizes. *Slide Shop* comes with clip art, but you can use art disks that are compatible with *The Print Shop*. You can also use the built-in graphics editor, with its variety of brush styles and computer-aided geometric shapes, to create your own full-color artwork.

Once your slides are finished, you can add sound effects if you want. The sound selection, some ninety noises strong, is reminiscent of a musical doorbell—included are a few bars of the *1812 Overture*, *Happy Birthday*, and other favorites. There are also buzzer, telephone, and swooping noises plus a few roboticized spoken phrases: "Attention," "Presenting," "The End," and others. The quality of the sound synthesis is disappointing, though.

Of course, the individual slides are only half the story. An easy-to-use script editor lets you shape your work into a polished presentation. Each script can use up to 200 slides, although that number will be limited by disk space. Setting up a presentation involves listing the slides in correct sequence, then selecting the type of transition you'll use in progressing to the next slide. You may want one screen to slide onto the screen from the left, while the next floats up from below. There are slow and fast dissolves, spiral wipes, and arrows—some forty in all. These are the most impressive parts of finished presentations, since it's here that *Slide Shop* shows differ most from those done with a slide projector.

Slide Shop is easy to use with mouse, joystick, or keyboard. It's forgiving—UNDO lets you fix graphic accidents, and you can always change sound effects and text colors. You can rearrange slides within a presentation at any time. The manual contains both a tutorial and a reference section. There's no index, however—a deficiency only partly made up for by a detailed table of contents.

Slide Shop provides a number of useful

extras. For example, you can export slides for touching up with another graphics editor, then re-import them. You can print slides on paper in black-and-white or color and in two sizes. The larger size can be copied onto acetate for use with an overhead projector. The smaller makes great handouts. Since finished presentations can be transferred to video tape or distributed on individual disks, the possibilities for use are endless.

—TAN A. SUMMERS

ENTERTAINMENT

King's Quest IV: The Perils of Rosella

SYSTEM REQUIREMENTS: 128K Apple, 512K Apple IIGS, 512K Atari ST, 256K IBM PC*, 512K Macintosh; hard disk recommended; CGA, VGA, EGA, or MCGA; supports Roland MT-32, Ad Lib, and IBM music cards; 5.25- and 3.5-inch disks (IBM)

PUBLISHER: Sierra On-Line, Inc., P.O. Box 485, Coarsegold, CA 93614; (209) 683-6858

PRICE: \$50

COPY PROTECTED: No

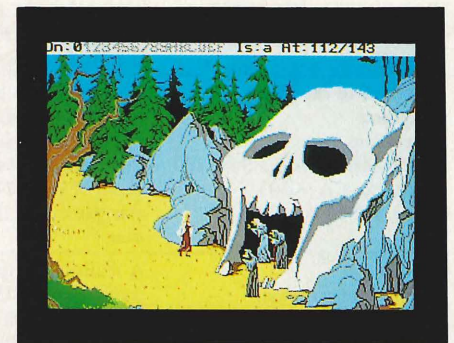
OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

PLAY SYSTEM: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★



The King's Quest series improves with every sequel.

Another potential tragedy confronts the royal family of the land of Daventry, and it is up to you, Rosella, the royal princess, to prevent it. Your father has taken ill, and you must journey to Tamir and return within 24 hours with the magical fruit that will restore the King's health. As should be expected from the "largest computer game ever produced" (more than 3MB in size, *King's Quest IV* comes on nine 5.25-inch or four 3.5-inch disks!), your mission is more easily said than done. Many mini quests must be completed along the way, and a small adventure awaits you in almost every scene. But the plot intricacies are just half the appeal of this adven-

ture; it is the play system and graphics quality that set *King's Quest IV* apart from other adventures and make it irresistible.

King's Quest IV is truly a three-dimensional interactive movie. A new situation and a new scene await at every turn; the only restrictions to movement are those obstacles that you can see. Walk around to the back of a house, swim under a bridge, climb up a spiral staircase—that special something you are looking for could even be hidden behind a bookcase at the far end of the room; it's your job to look. Use a joystick, mouse, or keyboard to get where you want to go. When some other action is called for, just type in the command, hit RETURN, and watch what happens. Type "Light the lantern"—a rosy glow illuminates the inside of a dark cave, "Chop the tree"—Rosella goes nuts with an axe.

King's Quest IV has some of the best graphics images this reviewer has ever seen. A hot bowl of soup, the inside of a whale's mouth, or an ogre lurking in the woods—there is no need to guess what the drawings represent.

Ideal for anyone with an adventurous spirit, *King's Quest IV* is well worth its purchase price. The only problem I see with this game is that it will be very difficult for Sierra to top.

—ROB GILPIN

Falcon A.T.

SYSTEM REQUIREMENTS: 512K IBM AT or 512K PS/2 Model 50 and above; EGA or VGA monitor; joystick recommended; 1.2MB 5.25-inch disk drive or 720K 3.5-inch disk drive; 5.25- and 3.5-inch disks

PUBLISHER: Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501; (415) 522-3584

PRICE: \$60

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★

PLAY SYSTEM: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★

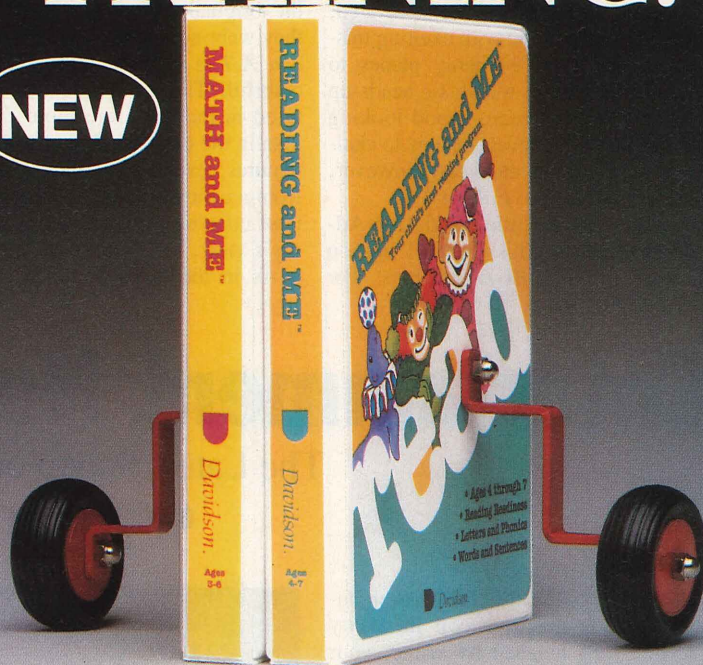


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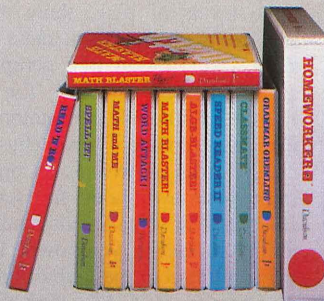
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Grab your helmet, climb into the cockpit, and get set for the ride of your life. Spectrum HoloByte has reached new heights in air combat games with this update of its F-16 simulation.

The original *Falcon* is a sophisticated, comprehensive simulation with exciting missions to fly and elusive enemy planes to fight. The game features a realistic heads-up display and radar screen, good-looking graphics, and multiple levels of play to challenge both novice pilots and aces. However, it pales in comparison to *Falcon A.T.*

The "A.T." in the title stands for Advanced Technology. This updated edition can support 16-color EGA graphics. For

those with Innovation sound boards, the game features enhanced sound effects. The result is an enormous improvement over its predecessor.

The EGA graphics look fantastic. While the original *Falcon*'s graphics were good, they were nothing to write home about. *Falcon A.T.*'s graphics are crisp, sharp, and colorful. The various tactical displays featured in the game are more comprehensive than in the original. And the updated edition features several new views including those from a control tower, a chase plane, and the nose cone of a missile, as well as your enemy's view.

As in the original, at the most difficult

levels *Falcon A.T.* takes on the flight characteristics of a real F-16. Armchair pilots can try their hand at complicated flight maneuvers and dog-fighting techniques. However, in the new edition, the flight instruments and armaments have been updated to conform to changes made in the F-16 since *Falcon* was designed. There are also new missions, new targets, and new planes to face.

Since aeronautical technology is constantly being improved, it's only logical that flight simulators should follow suit. With the original *Falcon*, Spectrum HoloByte had an impressive program. With *Falcon A.T.* it has a masterpiece.

—STEVE WILLIAMS

Entertainment News and Hints

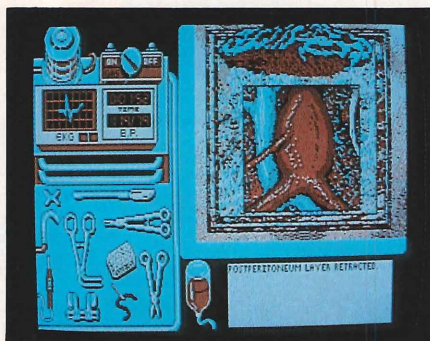
The Latest Scoop on Games

BY JIM PHELAN



SAVING LIVES. As an undercover cop in a city plagued by crime, your task is to get rid of pushers and punks in *Operation: Clean Streets* (512K Amiga, 512K

Atari ST, 512K IBM PC; \$35-\$40). Broderbund programmed your opponents to get tougher as you fight your way through five levels in this heroic arcade game. *Life & Death* (512K IBM PC, 1MB Macintosh; \$50) is another game that's not for the faint of heart. Software Toolworks bills its game as "the world's first interactive medical movie." As a new surgeon, you are asked to perform two operations: an appendectomy and heart surgery. With X-rays, EKGs, sonograms, and other lab tests to refer to, the fate of the patient is in your hands. One small slip of the scalpel and it's over. If you make a mistake, you can always go back to medical



You'll need more than a scalpel to succeed in *Life & Death*.

school. I don't know how accurate the program is in recreating the inner workings of the human body, but the 24-page manual on the history of surgery included with the game is first rate.

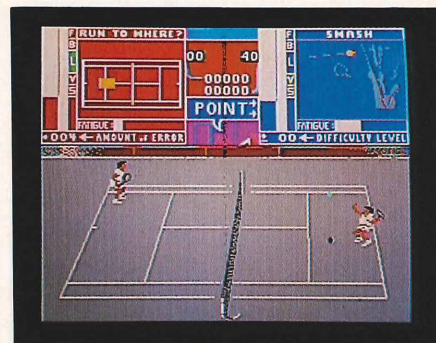
ACCOLADE ACTION. Three new sporting games are now available from the people who brought us *HardBall! Serve & Volley* (512K Apple IIGS, C 64, 256K IBM PC; \$30-\$40) is a strategic tennis simulation with three levels of play, three different court surfaces to choose from, and a one-, two-, or zero-player option (the computer plays itself). Chalk up for *Rack 'Em* (C 64, 256K IBM PC; \$30-\$40), yet another billiard simulation. Accolade's version has five games to choose from as well as an option to determine your own rules and scoring system. Built-in trick shots are also included plus the ability to design your own. In addition to being a full-court basketball simulation, *Fast Break: 3 on 3* (C 64, 256K IBM PC; \$40)

gives you the chance to participate in a three-point and slam-dunk contest similar to the ones found in *Jordan vs. Bird: One on One* (Electronic Arts). It will be interesting to compare them side by side.

RUMORS. Word has it that a series of soap opera programs is in the works. Installments will be distributed on a regular basis (probably monthly) so you can keep up with the fast-paced lives of your favorite characters. Cliff Johnson is working on two new puzzle programs similar to his *Fool's Errand* (Miles Computing). The programs, tentatively titled *A Fool and His Money* and *3 in 3*, will come out later this year from a publisher other than Miles Computing. At this writing, Chris Crawford's latest creation, *Excalibur*, is nearly completed, but no distribution agreement has been set. The same is true of Eric Goldberg's *1,001 Tales of Arabian Nights*. These free agents would get their products to the market sooner if they signed with a single



It's you against the world in *Operation: Clean Streets*.



Serve & Volley combines features of strategy and arcade games.

publisher rather than playing the field. However, such an agreement might jeopardize their creative control.

SPINNAKER EXPANDS LINE. A company known for its educational software and *Sargon* chess series has become more committed to the entertainment field with the creation of a new division: the Spinnaker Entertainment Group. There are two new outer-space titles that will appear over the next few months for the Amiga, Atari ST, and IBM PC. *Star Ray* is an updated version of the arcade classic *Defender* with 21 waves on each of seven different worlds. In *Quadralien* you combine quick reflexes with strategy to infiltrate a maze-like alien nuclear fission complex. Spinnaker's first role-playing adventure, tentatively titled *StarLords* (640K IBM PC; \$50), will be available this spring. As a new guardian of the galaxy, your mission will be to restore order after a former StarLord has rebelled and threatened the universe.

SCENERY DISK INFO. The manual that comes with Microsoft's *Flight Simulator 3.0* is causing some confusion as to how to use scenery disks 1-7 as well as the Europe, Japan, and San Francisco disks. Despite the file on the program disk (readme.doc) that explains the procedure, Microsoft has been swamped with calls. According to Microsoft, there are two methods: as a copy-protected disk from drive A or as a scenery file loaded into the same hard-disk subdirectory as *Flight Simulator 3.0*. To load the scenery disk from drive A, you first need to load *Flight Simulator 3.0* from the hard-disk drive or floppy-disk drive. When you're positioned for takeoff, press SHIFT-E to bring up the Scenery Library menu. Choose option 1 (Floppy disk in Drive A) or the number associated with the scenery file you wish to use. Then invoke the NAV/COM menu and choose selection A to set your position within the scenery area. No wonder people have been calling Microsoft.

CARTOON CAPERS. *Scooby Doo* (Apple IIGS, IBM PC), *The Jetsons* (Amiga, Macintosh II), *The Flintstones* (Apple IIGS, C 64, IBM PC), and *Johnny Quest* (C 64, IBM PC) are arcade and adventure games currently under development by MicroIllusions. Their interpretations of the Hanna-Barbera classics should appeal to children and adults alike. Saturday morning cartoons aren't what they used to be, but maybe these programs will help bring back the good old days.

GAME HINTS

Star Command (Strategic Simulations, Inc.). In this role-playing outer-space game, you control eight characters who receive danger-



Star Command is suitable for solo or team play.

ous missions from *Star Command*. With each success your characters gain power and rise in rank.

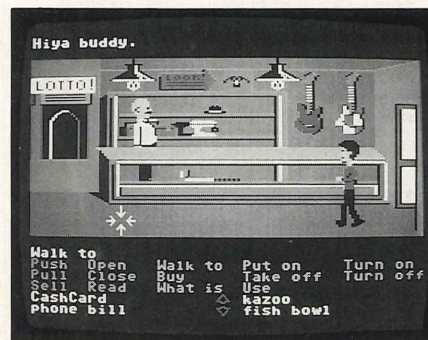
- ★ An esper is vital for at least one mission.
- ★ It might pay to search sector (31,27).
- ★ Black holes can save both time and fuel.
- ★ Beware of unguarded or unlocked treasure.
- ★ Tuning forks can be used in rooms with hairline cracks.
- ★ The escape pod has a multipurpose cover.
- ★ Wires are the key to escaping the Reptilian Jail.
- ★ Playing cards with the human at the bar can be helpful.
- ★ In some complexes, the vault will open only if you shut off the power.
- ★ Don't believe everything the slot machine says.

—BRADLEY MAZUREK

Carrot River, Saskatchewan, Canada

Zak McKracken and the Alien Mindbenders (Lucasfilm Games). Another animated game by the publisher of *Maniac Mansion*. Aliens have taken over the phone company and are attempting to make everyone stupid.

- ★ Pay close attention to the Zaire Tribal Dance.
- ★ The flagpole is needed to create the yellow crystal.
- ★ The egg and the toilet paper have something in common.



Zak McKracken goes shopping.

- ★ A token can be used as a common tool.
- ★ Zak's spacesuit is comprised of a wet suit, an oxygen tank, and a taped fish bowl.
- ★ Don't forget to jot down the winning lotto number.
- ★ Take the bobby pin sign to Mars.
- ★ You must transform yourself into another mammal to find the glowing object.
- ★ The blue crystal is needed to perform this transformation.

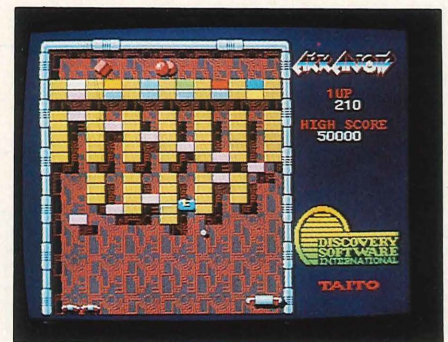
—KEITH GOSSAGE

Bloomington, Illinois

CONVERSIONS

Arkanoïd (Discovery Software). Now available for 512K Macintosh. Already out for 512K Amiga. Reviewed in July 1988 issue.

Autoduel (Origin). Now available for 256K IBM PC. Already out for 512K Amiga, 64K Apple, C 64, 512K Macintosh. Reviewed in June 1986 issue.



If you liked Breakout, you'll love the 33 levels of Arkanoïd.

The Bard's Tale II: The Destiny Knight (Electronic Arts). Now available for 512K Apple IIGS. Already out for 64K Apple, C 64. Reviewed in July 1987 issue.

2400 A.D. (Origin). Now available for 256K IBM PC. Already out for 64K Apple. Reviewed in June 1988 issue.

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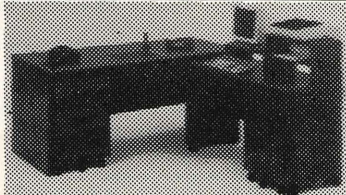
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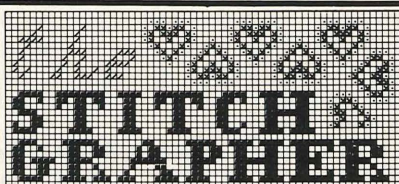


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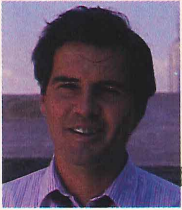
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Isolated? Me? Impossible!

BY NICK SULLIVAN



Ah, another day at the home office. I drop my youngest off at a residential day-care center, talk beef with a man who raises cattle (he sells *sirloin* hamburger for \$1.50 a pound!), pick up a blueberry muffin at Bayside (the ocean is azure blue today, with whitecaps), stop off to see a friend who grows tomatoes (we admire his '89 seedlings and talk about spring training and 386 machines), return home, fire up the computer (one day it's going to catch on fire judging by the sound), and start work. Blessed silence! Then it's a lunch of leftovers with my wife, a chat with the milkman, and back to work. A pile of work is reduced to ashes! To clean the computer cobwebs from my brain, I play squash with a dry cleaner—he beats the pants off me (ha! ha!).

I belabor the boring details of an average day to respond to a question I'm asked repeatedly: "Don't you feel isolated?" The answer is no. When I work, I work. When I socialize, I socialize. Whether I work at home or in an office is immaterial, most of the time. I couldn't isolate myself if I tried—I live in a world.

But I've been getting this "isolated" question so often I'm starting to feel like a monkey in a spaceship. So let me don my oxygen mask, stand on the ceiling, and put it another way: "I have plenty of food and water. I exercise. I listen to music. I talk to other monkeys. We have communications in this spaceship. Sometimes I actually get out and explore. I am not a shut-in. And besides, this is not a spaceship you're talking about, it's my castle."

I know what my inquisitors are getting at, and I'll get to it in a moment. But first, let me ask them a question (or two): "What is so great about the office water cooler?" The water cooler has suddenly become the glue that holds the social fabric together. *Mon Dieu!* Do pearls of wisdom drip with H₂O from the tap? Are things of import said within 20 feet of a water cooler? Do people go to work to socialize?

No, I think my inquisitors are barking up the wrong tree. Anyone anywhere who



Working at home means that I have more than just a bedroom in my community.

breathes and thinks is going to stay fully involved with the world—not just electronically tethered to it. Homeworkers won't become isolated unless they are, by nature, hermits.

The question I would ask myself is: "Do you sometimes find it difficult to do good work without the stimulation of co-workers or colleagues?" Being an honest man (and a Libra), I'll give two answers: yes and no.

When working on a well-defined project that just has to be hammered out, no. When trying to think clearly or write solidly, no. I know my job, I know my product, I know the people I work with, and I have the same electronic tools as my office counterparts.

But there are times when I miss co-workers: when I don't feel like working but feel like talking shop (about computers and magazines); when I need a quick piece of information but am too lazy to procure it for myself (and would rather shout and have the answer echo back to me); when I have lost sight of the larger vineyard in which I labor and need a fix on my position.

Magazines, like most products, are constantly fine-tuned. You can work by rote for

only so long before you need to pull back and ask: Where are we going? And I certainly can't determine *that* without sitting in a room and listening to my co-workers float ideas.

No one who works at home says or expects that the fax, modem, or telephone will replace face-to-face meetings. What you get from people is language, and language is different than communication. Communication is often a short-hand business dialect—nonsensical if you don't understand its foundation. Language—with the accompanying inflections, pauses, smiles, sneers, and winks—is expansive and supple. It's part of the thinking process, what makes people tick better than monkeys.

I need to attend a certain number of office meetings a year to remain a member-in-good-standing of my work group (the socializing part) and to know what in blazes is going on (the work part). Ten minds are better than one. But those epochal brainstorming meetings, when long-term plans are set, are few and far between. Work groups don't set new plans every week or month because it's unnecessary to do so. They maintain systems for as long as possible. And as long as you or I stay plugged in, we can do that from anywhere.

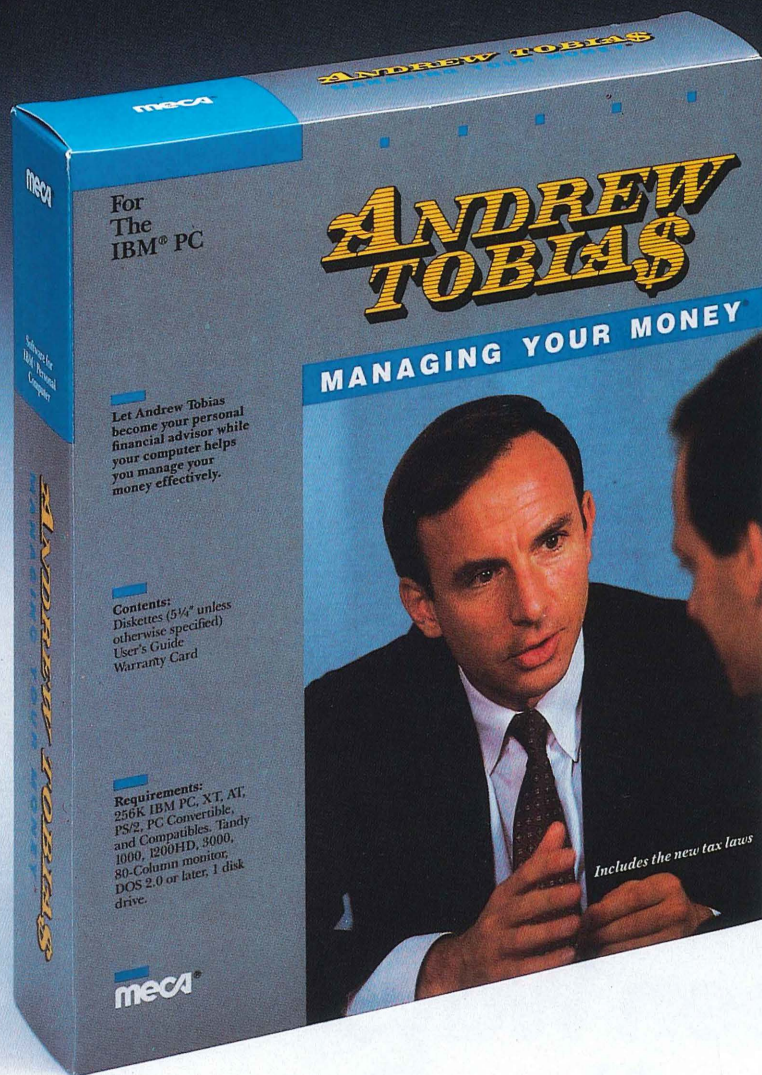
As for the daily baseball/weather/politics small talk that makes life fun, you can do that anywhere. The water cooler and the workplace aren't the only places to rub elbows. Sure, the home-office environment presents trade-offs—just as commuting two hours in heavy traffic is a stiff price to pay for office camaraderie. But working at home also means that I have more than just a bedroom in my community . . . Beep! Beep!

. . . Beep! Beep! Hey, it's Farmer John. I gotta run outside. Farmer John is in his 80s and drives down the middle of the road in an old Volaré at 13 miles an hour, hoping to intercept the mail lady before she gets to his mailbox. "Am I disturbing ya?" he always asks when I get down to his car. "No, no. How's the car running?" I love its great quiet idle. I know he's got some white turnips for me, but I would never ask.

"I got something for ya," he says, stretching his hand into the back seat to grab a paper bag. People laugh when I tell them how much I love turnips. But they've never had any of Farmer John's special white turnips. Someday maybe I'll bring a 'nip or two to an office meeting and show my co-workers how the other half lives. ■

NICK SULLIVAN is a senior editor of HOME-OFFICE COMPUTING and telecommutes to the New York office from Massachusetts. He can be reached on CompuServe (76703,744) or MCI Mail (NSULLIVAN).

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